

SPRING 2021

Growing Montana



**MABA 2021
BOARD
MEMBERS**

**PAM LANGLEY
MEMORIAL
SCHOLARSHIP**

**GREAT
MONTANA
AG RALLY**

A Publication of
MONTANA AGRICULTURAL BUSINESS ASSOCIATION

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MABA OBJECTIVES:

- To encourage the proper use of all pesticides, plant food, seeds and other agricultural products.
- To promote educational programs to bring together those who are associated with the aforementioned practices and uses.
- To provide a means for an exchange of information and ideas among persons associated with agricultural business.
- To encourage and support research and educational programs.
- To cooperate with local, state, regional and national agencies, both public and private, in the solution of problems and/or in the proposal of legislation relating to all such practices.
- To sponsor desirable laws and law changes that would be beneficial to the Association and its members.
- To serve as a clearing house for the legislative requests of various organizations regarding programs affecting the Association.



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A Message from the President

Whether I'm a big fan of moving forward. What does that mean exactly? Well, as I first contemplated what to write for the Spring 2021 newsletter, images of the past year's unprecedented challenges filled my head. If it weren't for a worldwide pandemic, what hurdles would we as an Ag Business industry have taken on? How would our businesses' accomplishments and setbacks looked different if we weren't hit with the ramifications from COVID?

Instead of dwelling on those scenarios that everyone figured out a way through (and I'm proud of MABA's role in helping navigate those waters), why not move forward with what's on the horizon? Sure, there's plenty of lingering issues from COVID that affect our supply chain and way of doing business today. But I feel it is important to not lose sight of the core challenges and opportunities within Agriculture that affect us all regardless of a public health crisis. Moving forward with a proactive vs. reactive mindset is something your current MABA Board has definitely bought into.



Luke Dighans

President

*Montana Agricultural
Business Association*

ADDRESSING INDUSTRY CHANGES

Where is MABA at and where is MABA going in the future? We stepped back and looked at the massive changes that have occurred in our industry since 1974 when Mike Thomas was President. The existing MABA Articles of Incorporation and By-Laws were created in a very different world. Even in the last 5 years, how many mergers, acquisitions, and even brand new businesses and business models have popped up? How many single-location retail stores exist in Montana now versus then? How many major manufacturers of Crop Protection Products and Crop Nutrient products exist in 2021 vs. 1974? What role has e-commerce and ag technologies had in the way business is conducted these days?

To answer the question of where MABA is at now vs. where we are going in the future, the board decided to first examine the internal infrastructure and operations of the Board, Membership, and Executive Director, noting any potential changes or improvements that could be made. You'll hear more about this in detail from our Secretary Johnnie Scott, but in March the board held a 2-day intensive workshop with an outside consultant where we re-evaluated many things: Mission and Vision Statements, Articles of Incorporation, By-Laws, Roles of Board

President continued on page 14

MABA 2021 Board Members



Luke Dighans, President
Pro Co-op Ag Center

Luke grew up near Peerless on his family's farming operation and graduated high school in Scobey. He completed two years at MSU-Bozeman before transferring to the University of Minnesota to finish a B.S. in Agronomy in 2008. Luke was employed with CHS-Eastern Montana Operations as an agronomist, location manager, and sales manager for 6 years before joining Grain Growers based in Scobey in 2014. He is currently the Agronomy Division Manager and a CCA for Pro Co-op (formerly Grain Growers) serving much of Northeast Montana. Luke enjoys sports, travel, history, and spending time with his wife Paula, kids Natalie, Mallory and Myles, and dog Madoc.

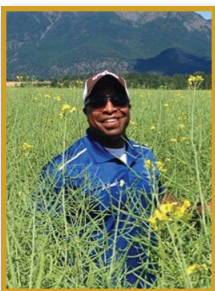


Jake Yates, Vice President
Nutrien

Jake is a Sales Manager at Nutrien, where he is responsible for wholesale fertilizer sales in MT, S. ID, UT and WY.

Before starting with Nutrien he spent time as a sales rep for Agrium, an agronomy location manager for CHS and Town & Country Supply and also as a CES (Certified Energy Specialist) at Town & Country Supply.

Jake is from Chinook, MT (GO Sugar Beeters!) and a graduate of Montana State University (Go CATS!!).



Johnnie Scott, Secretary
Syngenta Crop Protection

Johnnie Scott works in northern MT as a sales rep for Syngenta Crop Protection. He holds a bachelor's degree in Agribusiness from Texas A&M-Commerce. Although a native Texan, Johnnie is very passionate about Montana Agriculture. He has been fortunate to work in the industry across several states including: Texas, Arkansas, Mississippi, and Montana. He is always up for new challenges, and works diligently to promote and advance agriculture.



Tanner Hoversland, Treasurer
Moore Farmers Oil

Tanner was born and raised on a farming family in Scobey, Mt and graduated Scobey High School in 1996. Attended Carroll College and graduated with a B.A. in History, then continuing his education at Montana State University-Bozeman receiving a B.S. in Agricultural Economics. Tanner worked

for the J.R. Simplot Company for five years in Caldwell, ID and Grand Forks, ND. Yearning to be closer to family, Tanner accepted an Agronomist/Sales position with Moore Farmers Oil in 2008 and is currently the Agronomy Manager. Tanner lives in Lewistown with his wife Kelsi, their son Keegan and daughter Kit.

Dan Brattain
Helena Agri-Enterprises LLC

Dan grew up in Great Falls Montana helping on his family's ranch and graduated from CMR High School in 2007. He attended Montana State University-Bozeman from 2007-2012 and graduated with a B.S. in Agriculture Business and a minor in economics. After college Dan worked for CHS in Kalispell as an agronomy sales representative from 2012 to the end of 2014. At the beginning of 2015 he started at Kernaghan's Service, Inc. in Great Falls as their agronomy sales representative. At the beginning of 2019 Kernaghan's Service was acquired by Helena Agri-Enterprises LLC. Dan is currently still the agronomy sales representative for Helena Agri-Enterprises Great Falls retail and is helping on his family ranch with both his parents, wife, and daughter Teagan.



Burl Brawley
Helena Agri Enterprises LLC

Burl was born and raised in Great Falls MT. He has spent most of his career in the Ag Industry in Montana. Burl has worked in Ag Chemical retail and the majority of his career has been spent in the Wholesale Ag Chemical Business. Burl has spent time as a Truck Driver, Logistics Manager, Outside sales and most recently he is the Location Sales Coordinator for Helena Agri Enterprises LLC at their new facility in Great Falls MT.



Ryan Helmer
Wilbur Ellis

Ryan grew up in Minnesota before studying AgBusiness at Montana State. He then farmed and ranched fulltime for 6 years south of Wolf Point. Ryan started working for Wilbur-Ellis Company in 2012 after a short stint at Agland Coop in Wolf Point. Ryan specializes in Precision Agronomy and Field Technology. Ryan lives north of Sun River with my wife Megan and daughters Grace, Paige and Claire. His family raises black angus cattle with partners in the Geraldine area. Ryan and his family love to hunt, fish, spend time outdoors and enjoy Montana agriculture.





Don Soper
CHS Big Sky

Don was born and raised in Larslan MT, a little community south east of Opheim MT where My family farmed and ranched. Don graduated from Opheim High School in 1989. Don then decided to see the country, and started a stint on the custom harvesting circuit with my uncle's combining business.

After 3 years Don moved back to Montana to start his agronomy career. He went to work for Valco Agri-Services in Glasgow Mt., in 1993.

Don moved to Havre the summer of 1995, and started working for an independent agronomy company. After spending 14 years there, Don moved on in his endeavors, and started a new job in agronomy sales for CHS in 2009, where he is currently residing.

My wife has been a school teacher in Box Elder since 1998. Hobbies include, camping, and spending as much time as possible at our family cabin in Eureka MT.



Casey Odom
Nutrien Ag Solutions, Inc.

Casey Odom is employed by Nutrien Ag Solutions in Billings Montana. Casey has worked for several legacy Nutrien companies for the last 13 years including United Agri Products, Crop Production Services and Nutrien Ag Solutions. Casey has earned a distinguished career in multiple roles starting with his career in Glasgow, Montana as a facility

Manager. Company changes gave Casey an opportunity to take a sales role in Billings covering southern Montana and northern Wyoming.

Casey's success is a direct result of working hard, answering the call, building relationships and having common interests with he engages, that being Montana agriculture. Casey takes pride in helping producers meet there goals and growing successful operations.



Tim Takes
KALO Inc.

I was born and raised on a farm in Power MT. I attended Northern MT College and obtained a degree in Ag-Business. After college I worked a year for USDA Soil Conservation Service in Havre. I decided government work was not for me and began my ag business career with Harvest States as a pesticide applicator in the Billings area. In 1995 I

moved to Stevensville, where I currently reside, to be a field agronomist for Farmers Exchange - CHS. Afterwards I spent 9 years managing the agronomy division of CHS

Mountain West. In 2011 I made the move to the wholesale side of ag business and worked for CHS Wholesale Crop Nutrients supplying fertilizer to ag retailers in MT, ID, WA, OR, and UT. Following company restructuring and a departure from CHS after 24 years, I spent a year working outside of the ag industry. Feeling that ag had always been my professional calling, in 2019 I became the Northwest Area Manager for KALO, an adjuvant company, where I help test and bring new technology to Ag retailers across the northwest to improve the performance of their crop protection products. I have and still do spend time sitting on other ag based organizations and boards including Ravalli Co Weed Board, Montana Weed Control Association, Right to Farm/Ranch, MSU Western Ag Research Station Advisory Council, and Far West Ag Business association. I am married with 2 children, a son at Stevensville High School and a daughter attending Montana Tech. I spend my free time working and playing golf at the local course, fishing, camping, hiking and enjoying all the great outdoors of western Montana has to offer.

James Baguley
Corteva Agriscience

James Baguley grew up on a small fruit production operation in west Michigan. While attending Michigan State, James began his work in the ag chemical industry with BASF. Working in Michigan, North Carolina, Tennessee, Missouri, Arkansas, Montana and South Dakota for BASF. In the winter of 2017 James had the opportunity to return to Montana's agriculture industry with Corteva AgriScience, Territory Manager for Western Montana.



NEW BOARD MEMBER

Marcus Weatherhead
Valley Farmers Supply

I am a West Virginia University graduate who began my career in Montana with CPS in 2013 as a sales agronomist. In 2016 I started as a location manager with Valley Farmers Supply in the Yellowstone valley and was promoted to Agronomy Director within Valley Farmers Supply in 2020. Recently I have joined Corteva as a strategic account manager for the state of Montana. I live in Huntley Montana with my wife Teale Weatherhead and 2 boys Nolan Weatherhead (4) and Reed Weatherhead (3). I'm really looking forward to contributing to MABA with my perspective of Ag retail with my experience from a large retailer to a smaller cooperative. ■



The MSU Central Agricultural Research Center (CARC)

The CARC's mission is to serve the farmers and ranchers in central Montana, as well as respond to the broader needs of Montana agriculture through applied agronomic research. The overall goal of this research is to develop dryland agricultural systems that are sustainable economically and environmentally. To accomplish this, a well-trained staff manages over 50 experiments at the center and on nine on-farm sites to each year. Foundation seed also is produced on some of the 600 dryland acres managed at the CARC.

Much of the research done at the CARC is collaborative and involves personnel at the center, other MSU research centers, the main campus in Bozeman, other universities, colleges, and the USDA along with private research facilities. One example is the crop testing program at the CARC where experimental lines and commercial varieties developed by MSU plant breeders are evaluated for their performance in side-by-side comparisons. Results of this work lead to the release of new varieties that produce higher yields, grain with improved quality, or are superior in other ways (e.g., disease resistance) to varieties currently grown. The result of the crop testing program at the CARC is that central Montana farmers are provided with better varieties to grow than the ones they currently are using. Their bottom line is improved as they switch to newer, high performing varieties. This benefits farmers but also the state of Montana.

Research at the CARC is not limited to crop variety testing. In fact, considerable research is underway exploring how fertilizer can be used efficiently, how weeds can be controlled economically, and how crop diversity above and below ground impacts the soil microbiological community and soil health. This reflects the responsibilities of the two faculty at the CARC. One individual is expected to develop ways to diversify winter wheat-based cropping systems, while the other is responsible for develop strategies for recruiting the soil microbial community to

support this diversification. Both faculty members and their research teams are involved in identifying biological and chemical products, including microorganisms that alleviate plant stresses.

A partial list of ongoing or recently completed research at the CARC provides a snap shot of the work that is being done:

- Five widely grown, annual grain and seed crops (barley, canola, lentil, pea, and spring wheat) are being grown in repeating two-year crop sequences (e.g., barley-canola-barley-canola) in all possible combinations to determine impacts on soil fertility, plant disease, weeds, crop yield and quality;
- Field and greenhouse experiments are being conducted to determine which soil microbes are recruited, and their functional differences, by barley in contrasting environments and in response to drought stress;
- Fall- and spring planted small-grains are being grown in side-by-side comparisons to determine which species produces the greatest amounts of high-quality forage as an alternative and also supplement to traditional forage sources;
- Crop performance and impacts on soil nitrogen (N) mineralization and overall microbial activity are being compared in a continuous wheat system and in a diverse rotation that includes pulse crops where wheat is grown once every four years;
- Contrasting integrated management systems are being compared for their efficacy in controlling herbicide resistant weeds, and in controlling creeping perennial weeds (e.g., Canada thistle) in cropland;
- Camelina is being grown under low- and N conditions to determine how this crop interacts with soil microbes to optimize N uptake



and use so that seed yield can be improved;

- Native strains of drought-tolerant, N-fixing bacteria are being collected to determine if they can be formulated into inoculants to improve biological N-fixation by peas and other pulse crops compared to commercial inoculants, particularly under drought conditions;
- Best management strategies are being developed for the production of lentil in central Montana under both conventional and organic management; and
- Soil microbes are being studied to determine if they can be used to improve the availability of phosphorus in rock containing this important nutrient when applied to cropland.

Research being done today at the CARC reflects changes that are occurring across the agricultural landscape. Satellite and other aerial imagery is being used to make better informed decisions on how to interpret results generated in field experiments. A drone is being used to expand the collection of data, and to improve the precision of the data that are collected, as well. On-site laboratory and processing facilities are being upgraded or, in some instances, developed for the first time. In short, equipment and facilities are being improved and added so that the CARC can continue to fulfill its mission for the good of Montana farmers and ranchers.

We invite farmers and anyone interested in learning more about the CARC and the research being conducted at the center to attend two events where summaries of

CARC continued on page 12



Figure 1. Dryland spring pea variety trial at the MSU Central Agricultural Research Center.



Figure 2. Dr. Jed Eberly works with soil DNA extractions to understand how different farming practices impact the soil microbial community at the MSU Central Agricultural Research Center.

Figure 3. Dryland spring canola variety trial at the MSU Central Agricultural Research Center.



Figure 4. Evaluating sheep as part of an integrated weed management strategy at the MSU Central Agricultural Research Center.

Pam Langley Memorial Scholarship

The Pam Langley Memorial Scholarship has long been an MABA activity - one that the association has been very proud to promote and support. Starting in 2017, MABA and its membership worked hard to establish the Montana Agricultural Business Foundation (MABF). The MABF was formally established in the fall of 2018 and is now in operation.



One of the benefits of MABF is that it is organized as a charitable foundation therefore removing any question regarding the appropriateness of providing scholarships to our membership and their children. In 2019, the Pam Langley Memorial

Scholarship transitioned away from MABA and to MABF for administration and granting. This is a great opportunity for MABA members to provide funding to MABF to bolster these types of activities.

The current MABF Board of Directors include: Nichole Drake, Chris Barge, Tom Burchett, Nathan Brooks, Nate Fairbanks, and Branden Stone. Please reach out to any of them for additional information or to provide funding for the foundation and its activities.

Please spread the word to your employees and others in our business so that this scholarship opportunity isn't missed. The deadline for applications is May 15. ■



Our Mission

To preserve Montana's agricultural heritage and to foster its future by supporting and developing sound agricultural practices and promoting the positive impacts of agribusiness on agriculture, the environment, and Montana communities.



Montana Agricultural Business Foundation SCHOLARSHIP APPLICATION



PAM LANGLEY MEMORIAL SCHOLARSHIP

Deadline: May 15

There is no longer a requirement that an applicant be entering their second year – the student must be enrolling in next semester.

ELIGIBILITY:

Three \$1000 scholarships will be awarded to students in pursuit of post-secondary education. Scholarships are not limited to in-state schools or to any field of study. The applicant or legal guardian of applicant must be employed a minimum of 800 hours per calendar year or be retired from a career with a business that is currently a member of the Montana Agricultural Business Association and its adjoining states. A student receiving a scholarship may reapply for subsequent years, but will not be awarded a scholarship more than twice.

SELECTION:

The selection committee policy does not advocate, permit nor practice discrimination on the basis of sex, race, age, color, national origin or handicapping condition. The selection committee shall consist of at least three members of the MABF Board of Directors. Committee members should not have potential applicants. The president may select committee members from the general membership if necessary. Winners will be announced and funds awarded before the fall semester.

PERSONAL INFORMATION:

Name _____

Current Phone _____

Marital Status _____ # of Dependents _____ Email: _____

Current Address _____

Permanent (home) Address _____

Name of Parent or Guardian _____

Parent or Guardian Address _____

Parent or Guardian Phone _____

Occupation of Parent or Guardian _____

MABA Employment Location _____

Number of brothers and sisters: older _____, younger _____, # in college now _____

over

PREVIOUS EDUCATION:

1. High School _____ Town _____
High school rank: ____ of ____ in class. Year graduated _____
2. Post Secondary Education (if any):
 - A. School _____ Town _____
Years completed _____ Degrees earned _____ GPA _____
 - B. School _____ Town _____
Years completed _____ Degrees earned _____ GPA _____

ACTIVITIES AND ACHIEVEMENTS:

1. What has been the nature and extent of your participation in activities of: (answer for both your high school and post-secondary years; use additional sheets if needed.)

Your School:

Your Community:

2. List any special recognitions or awards you have received.
3. Why do you feel you deserve this scholarship?
4. What work experiences have you had?
5. Write a paragraph or two indicating what your career plans are.
6. In which School and Program do you intend to enroll in seeking this scholarship?
Name of School _____
Major _____
Option or Area of Concentration _____
7. Are there any other circumstances, financial or otherwise, which you would like the committee to consider as an additional reason to grant aid?

REFERENCES:

Give the names, positions and addresses of three persons (not relatives) as references. It is preferable that at least one be a person for whom you have worked.

Name and Position:

Address:

_____	_____
_____	_____
_____	_____

Attach two letters of recommendation, your high school and postsecondary transcripts and a photo (the winners photos will be used for publicity). Return to Scholarship Committee, PO Box 7325, Helena, MT 59604 by May 15. **Preferred method: Application materials may also be submitted to: mabamgea@gmail.com**

I understand that this application is for \$1000 in aid for the next school year. Any breach in enrollment or other unsatisfactory performance in my course of study will result in cessation of aid.

Date _____ Signature of Applicant _____



Safety Is A Priority!

Happy Spring! I missed seeing and visiting with all of you at the MABA convention this year. I hope by late summer we can all get together in Great Falls for our summer outing and reconnect. Spring season is here and with it comes the risks of accidents and injuries. Long hours and lots of rushing to complete our tasks can cloud our judgment and at times lead us to take short cuts.

I am proud of my employer Nutrien and the safety culture they have developed and installed across all departments and employees. I promise I am not the only human on this planet who viewed safety and safety awareness as a waste of time! I was stubborn and fought it for some time feeling the daily safety shares and starting off every meeting with a safety share was exhausting and useless! But I am telling you the sooner you can view safety as a priority the better! My acceptance and recognizing safety every day has helped me view the world differently and make smarter decisions for myself, family, and those around me. At the end of the day it is our responsibility to make it home to our family and friends and ensure those around us do also!

I would like to share an experience I had a few years back and what I learned from it. Because I have accepted safety as a priority, I honestly believe I would not make the decisions I did that cold winter day if I was placed in a similar situation today.

I was duck hunting with some buddies and nephew on the Yellowstone river. The temperatures were cold and there were ice chunks floating in the main channel. We knocked a bird down and it floated up against a large ice sheet that had developed from the shore going out into the river. For whatever reason I decided not to observe my surroundings and discuss the situation with the others. I took off with my dog Wrigley walking down river and decided to walk out on the ice sheet. My mind was so focused on the duck and retrieving it quickly before the next flock of ducks could come in, I ignored the dangers and

had “blinders” on because I was in a hurry. About the time I was within reach of the duck my mind became clear and I realized the danger I was in. Suddenly, my feet broke through the ice and luckily, I got my arms straight out to my sides and caught myself. Meanwhile, my playful Labrador was trying to be the hero and get to the duck also. She was running around my head and shoulders breaking the ice and making the hole larger. I could hear my friends and nephew behind me yelling and running down the bank in my direction.

It was odd how everything became still and calm. Time seemed to slow way down, and my mind became clear. I was able to evaluate the situation as the river current raced past my legs trying to pull me under and downstream. I was wearing hunting waders and my fear was if I went any lower the water would start coming into my waders filling them and pulling me down. I unclicked the straps over my shoulders hoping they would slide off if needed. I started pushing myself up and putting my knees against the edge of the hole in front of me. As the ice hole became larger from my knees pushing and breaking the edge away, I was able to get a foot up against the edge and push myself up and backwards onto my back on top of the ice. I was yelling at my dog and friends to stay back and off the ice sheet. I was able to roll away from the hole and crawl to shore.

After being chewed out by my hunting party and hugs all around we sat in the blind very quiet. I sat reflecting on the event and how dumb I had been to put all our lives in danger. I let excitement and the feeling I had to rush and hurry to get back to the blind cloud my judgment and put my life in danger. All I had to do was observe the situation, discuss



Jake Yates

Vice President
Montana Agricultural
Business Association

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Figure 5. Aerial image of the MSU Central Agricultural Research Center taken from a drone.



Figure 6. Flax field at the MSU Central Agricultural Research Center.



Figure 7. Lentil (middle), pea (left), and canola (right) in a crop rotation study at the MSU Central Agricultural Research Center.

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some of this work is presented. One is the Crop Management Field Day held each summer – typically during July – at the research center. Attendees are taken to several ongoing experiments where they can see for themselves what is being done. Researchers are present to discuss the experiments and to answer questions. The Crop Management Field Day will be held Tuesday morning, 13 July, in 2021.

The other event where ongoing research at the CARC is discussed is the annual Central Montana Research Roundup, typically held during December in Lewistown. The Roundup is an all-day event where researchers can go into greater detail about the experiments underway at the CARC because there has been time to analyze data collected during the summer, and to interpret results of the analyses. The Central Montana Research Roundup and the Crop Management Field Day are recommended for anyone wanting to learn more about the research being done or recently completed at the CARC. ■

The Montana State College of Agriculture and Montana Agricultural Experiment Station would like to thank MABA/MGEA for the opportunity to feature our Research Centers in this newsletter. As a brief introduction, the mission of Montana State University is to provide education, research, and outreach programs focused to meet the changing needs of Montana. The College of Agriculture and the Montana Agricultural Experiment Station generate and disseminate superior knowledge and technological solutions to increase the competitiveness of Montana's communities, preserve environmental quality, and improve the quality of life for all our citizens. As part of that mission, our facilities including seven research centers, three off-campus ranches, and several off-campus farms provide learning opportunities and applied research spaces that benefit our students, faculty, and stakeholders. We are excited to share what is happening with you and get feedback on your needs. Please contact us if you have any feedback!



MONTANA STATE UNIVERSITY

College of AGRICULTURE & MONTANA AGRICULTURAL EXPERIMENT STATION



New Vision from New MDA Director

Mike Foster has taken every opportunity to build positive partnerships and share ideas for advancing Montana's agricultural industry since beginning his new role as Director at the Montana Department of Agriculture (MDA) in January.

He envisions the department acting as a catalyst by bringing together producers, agricultural and economic development organizations, universities, and allied businesses to promote Montana ag products and explore value-added opportunities to expand the industry. Recently, he worked together with Governor Greg Gianforte and MABA Executive Director Krista Lee Evans to temporarily exempt fertilizer haulers from hours of service regulations. The Governor's Executive Order is effective through June 6th and demonstrates how state government can work together with agribusiness groups to meet the needs of the agricultural industry.

"Every day counts for Montana's farmers, and farm inputs like fertilizer are crucial to the success of their operations," said Mike Foster. "The Governor's decision to waive hours of service regulations this spring guarantees that our producers have what they need to get out in the field and plant as soon as the conditions are right for them to do so."

During Montana Ag Week, as proclaimed by Governor Gianforte on March 23rd, representatives from across the industry gathered in the capitol building for an Ag Roundtable. This gave industry leaders an opportunity to speak directly to Governor Greg Gianforte, Lieutenant Governor Kristen Juras, MDA Director Mike Foster, and Department of Livestock Executive Officer Mike Honeycutt about their goals as well as the challenges facing different sectors of Montana's ag industry. The following day, the Governor invited all Montanans share their input with his administration as they review regulations related to farming and ranching through the Red Tape Relief Task Force.

The 67th legislative session has been central to both

the Governor's administration and the department's activities so far this year. As of early March, all three of the department's bills have been signed by the Governor. A quick recap of the bills:

- House Bill 93 allows the department to certify more noxious weed free materials, such as gravel, through administrative rulemaking processes.
- House Bill 94 adds private loans to eligibility requirements for the Student Loan Assistance Program that was established in the previous legislative session to encourage young producers to pursue careers in farming and ranching.
- House Bill 142 aligns the MT State Hemp Program with federal rules set forth by USDA and maintains a clear separation of state hemp regulations from state marijuana regulations.

The department's budget has received support from legislators and industry organizations alike as House Bill 2 continues to make its way through the process. As the department continues to monitor a list of bills related to agriculture, testify at hearings, and track the progress of bills related to agriculture, Mike Foster and his leadership team have also set their sights on Montana's portion of federal American Rescue Plan Act (ARPA) funds.

House Bill 632 addresses the next wave of federal COVID-19 relief funding and is currently being considered by the legislature. Although details from federal government are still forthcoming, the department is optimistic that their proposal for a \$50 million grant program designed to strengthen



Director Mike Foster highlighting the importance of Montana's #1 industry on Montana Ag Day.

New Vision continued on page 14

New Vision continued from page 13

Montana's food supply chain and invest in the long-term viability of Montana's ag sector will be included. On Wednesday, April 7th, Director Mike Foster had the opportunity to advocate for the inclusion of the program during the Senate Finance and Claims Committee's hearing.

"Montana has a tremendous opportunity to invest ARPA funds in innovative projects that will make our agricultural industry more resilient to future economic disruptions of all kinds and propel us to that next level," said Director Mike Foster. "The department is thinking big as we focus on improving distribution, storage, and processing across the state."

Deputy Director Christy Clark is leading efforts for the Montana Agriculture Resiliency Program which includes three tiers:

- Tier A: Local produce and protein production and distribution;
- Tier B: On-farm storage; and
- Tier C: Resilient supply chain infrastructure.

Input from organizations like MABA and MGEA is greatly appreciated as the department works to address supply chain infrastructure hurdles and ensure Montana producers and agricultural businesses remain competitive on a global scale. You can monitor the progress of House Bill 632 at leg.mt.gov and reach the department at (406) 444-3144 or agr@mt.gov. ■



Ag Roundtable hosted by Governor Gianforte on March 24th at the capitol.

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67th Regular Session of the Montana Legislature

The Montana Legislature meets for 90 legislative days every other year. The 67th regular session looked a bit different than previous sessions as the legislature embraced a new way of doing business due to Covid concerns and challenges.



Krista Lee Evans
Executive Director
Montana Agricultural
Business Association

THE SAME BUT DIFFERENT

The legislature was held in a “dual” type format where legislators and constituents alike attended in person or via Zoom. While different and certainly a challenge at times the dual format allowed MABA members to be more involved through public testimony as they did not have to travel to Helena to provide input. There were challenges as well with the inability to interact with legislators that are 100% remote and sometimes impossible to contact outside of a committee meeting. We were able to work within the limitations and opportunities to make sure that our members concerns were heard.

ISSUES

MABA tracked about 30 bills this session. A majority of them were on our “watch” list to make sure they weren’t amended or changed in a way that impacts our membership negatively. Outlined below are the bills that MABA actively engaged in by providing public testimony, meeting with legislators, and working to support or table proposed legislation.

HB 294 – Revise Fees for Agricultural Seed Licenses Rep. Fitzgerald | MABA Support

HB 294 was brought at the request of the Montana Seed Trade Association. The purpose of HB 294 is to provide adequate funding to the MT Department of Agriculture to implement the seed laws. The purpose is to provide the tools necessary to protect intellectual property in Montana and allow for greater access to genetics. HB 294 passed the Legislature and was signed by the Governor.

HB 303 – Revise Business Equipment Tax Laws – Business Investment Grows (BIG) Jobs Act Rep. Kassmier | MABA Support

HB 303 is part of Governor Gianforte’s Tax package. HB 303 increases

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the business equipment tax threshold to \$200,000. MABA supported HB 303 based on the increase of capital available to growers resulting from a decreased tax. At this time, HB 303 has passed the House and is pending action in the Senate.

HB 410 – Pollinator Protection Act

Rep. Olsen | MABA Oppose

This bill had multiple pieces that could have impacted MABA members. HB 410 requires that any plantings on state owned or managed lands must be plated to pollinator friendly plants and that neonicotinoids can not be used. MABA and others strongly opposed HB 410 for a multitude of reasons including the inference that neonicotinoids are the sole responsibility for colony collapse. HB 410 was tabled in House Agriculture.

HB 700 – Generally Revise Ag Laws

Rep. Dooling | MABA Oppose

HB 700 was amended in House Agriculture committee. This amendment completely changed the purpose of the bill requiring MABA and other groups to oppose the bill. As amended HB 700 removed liability for seed cleaning and protected varieties. MABA and others opposed the bill based on the misleading nature of the language. There was significant concern that this bill allowed for and promoted brown bagging. HB 700 died on the House Floor.

SB 164 – Revise Non-degradation Standards for Nitrates

Sen. Glimm | MABA Oppose

SB 164 allowed septic systems to increase the amount of nitrates contributed to state waters and still be considered non-degradation. The bill as introduced brought in “all sources” of pollution including agriculture as a nonpoint source contributor. To allow one contributing entity to contribute up to the clean drinking water standard means that all other contributors would need to be permitted – primarily agriculture. Agriculture is working diligently to decrease nitrate contributions and MABA felt that this bill is going in the wrong direction. The bill was amended to remove all sources. SB 164 passed the Senate and is pending action on the House floor.

SR 55 – Confirm Governor’s Appointee for Director of Department of Agriculture

Sen. Lang | MABA Support

Governor Gianforte appointed Mike Foster as the Director for the

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Montana Department of Agriculture. Mr. Foster is a Montana native from Townsend and most recently served as the head of FSA in Montana under the Trump Administration. MABA is looking forward to working with Director Foster and are encouraged by his commitment to all types of agriculture production in Montana. SR 55 passed the House and Senate and has been filed with the Secretary of State.

PENDING CHALLENGES/OPPORTUNITIES

HB 632. Implement receipt of and appropriate federal stimulus and COVID recovery funds

Rep. Garner | **MABA Support**

The 67th Legislature has a unique challenge in addressing funding options and opportunities resulting from ARPA (American Rescue Plan Act). MABA has been actively involved in working to secure funding for the Montana Agriculture Experiment Stations and their planned upgrades. The primary source for this funding was in HB 14 as discussed earlier. However, with ARPA funding available we also supported the use of ARPA funds to pay for these improvements. There are also other opportunities that will become available through HB 632 which is the ARPA implementation bill. MABA is promoting allocation of funds to the MT Department of Agriculture for direct assistance and development of agriculture in Montana.

This process is evolving as the state is waiting for additional Federal Guidance and use of the funds. It will be critical that as the process evolves MABA members be engaged in identifying local needs and opportunities that can be funded with the federal ARPA funds. ■

Safety continued from page 11

my ridiculous idea with everyone and realize the danger was not worth the duck. At the end of the day we did not retrieve the duck anyway! I learned the importance of slowing down and evaluating a situation. Keep your mind clear, don't rush into something. Also, communicate with those around you as there is a good chance your peers may recognize a danger or risk you don't even see. Seeing my wife and kids that evening made me accept safety at a whole new level. If it cannot be done safely, just don't do it!! ■

How Microbes Are Improving Fertilizer, Soil Health

By Dan Jacobs

WHAT'S OLD IS NEW AGAIN.

Growers have been using fertilizers of some sort for, well, as long as they've been farming. The advent of modern fertilizers certainly helped growers increase their outputs. But after decades of use, they have stripped many beneficial microbes from the soil.

Many companies are now turning that technical knowhow and what's been learned about the microbiome to provide products that help restore soil health and deliver increased yield.

"A lot of the microbe strains that were in the world are now extinct," Khanh Le, COO and Co-Founder, at Cisbay. "The unfortunate thing is before chemical fertilizer came about after World War II, the soil was quite healthy. We stripped the soil of the natural defense it had — active microorganisms. In nature, in order to control the bad bacteria, you need the good bacteria."

While the technology has changed, e.g., formulation and application, the basics haven't.

"It's fertilizer. It's the same 17 nutrients we're all familiar with from school," says Reid Abbott, SE Regional Agronomist, at AgroLiquid. "How we're delivering that nutrient; the way the product behaves in the tank, in the soil, in the plant — we can create value from that chain of events."

The field certainly doesn't remain stagnant. Companies continue to innovate offering growers ways to make their crop input spend more efficient. Here are a few recent announcements.

HELENA AGRI-ENTERPRISES

Resurge is a low-dust granule that provides growers with humic compounds engineered to improve nutrient efficiency and strengthen plant growth with

fast release of the active ingredient.

"We've worked hard to change perceptions with demonstrations and telling our own story," says Patrick Ewan, Helena's Director of Sales & Brands. "We went through a complete rebrand. Five years ago, we might get different answers. Not anymore."

WILBUR-ELLIS

Wilbur-Ellis recently announced the launch of EMBRECE-EA, a unique blend of surfactants designed to elevate the performance of fungicides, insecticides, and miticides by increasing wetting and spreading of spray materials.

The product gives growers a safer alternative to similar adjuvants. "EMBRECE-EA can provide a high-performance option to organosilicone-containing adjuvants where there are concerns about phytotoxicity, spray mix run-off and toxicity to beneficial insects," says Wilbur-Ellis' Senior Formulation Chemist Jim Glatzhofer.

MIDWESTERN BIOAG

"Our approach to additives and enhancers on the fertilizer side is carbon, and not just any carbon, but rapidly available carbon," says Edwin Suarez, Wholesale & Agronomy Manager. "It's all related to nutrient uptake, nutrient efficiency."

Following the 2020 Commodity Classic, TerraNu released details of the company's latest field trials. Highlights from the data include 19 on-farm corn trials across six Midwestern states that demonstrated a 13 bushels per acre average yield increase compared to standard grower blends, and 89% of trials had increased nutrient uptake at VT including phosphorous, potassium, sulfur, boron, manganese, and zinc, according to the company.



Additionally, third-party corn research trials conducted over 2018 and 2019 consisted of 26 trials across seven states and showed a 5 bushels per acre increase over third-party fertilizer programs. In 2019 trials, 88% showed increased sulfur, boron, and zinc uptake at V5, the company says.

AGROLIQUID

Not only are the products evolving, but so our application practices.

“What I’ve noticed fertility-wise is the differences in applications and spreading those timings out,” says Abbott. “The guys are getting pretty creative in how they’re putting out products that we’ve had out for years.”

They’re blending differently and addressing different nutrient situations; for example, addressing midseason through a sidedress application. In addition, the precision agriculture push provides tools to place fertilizer at planting time.

The company has taken its existing technology and manipulated that molecule to serve different purposes and get different characteristics out of our nutrients like faster nitrogen and phosphorous release, better storability, or mixability.

“Data is everything in this industry now,” Abbott says. “Guys are able to share different experiences back and forth. Growers — they’re trying to do things more efficiently but also not (have) a huge strain on their labor at the time of application. They’re trying to cram more and more operations onto that one pass on the field.”

AMERICAN PLANT FOOD

American Plant Food works with Sigma AgriScience to provide next generation biotechnology products.

American Plant Food works with Sigma AgriScience to provide next generation biotechnology products.

“We are working on several products including a poultry litter product made by Sigma AgroScience,”

says Spencer Tibbitts, Research Agronomist with APF. “That product is called Sigma 2-4-2. The main benefit of that is it has lots of biologicals. It has bacteria and fungi to improve crop growth.”

APF is also working with a company out of Guatemala that produces a granulated, micronutrient product called Biosphere. “That contains various blends of micronutrients — calcium, sulfur, magnesium, manganese, zinc, boron, iron, etc.,” Tibbitts says.

The company also works with Com-pass Minerals to apply their line of powdered nutrients, Wolf Trax line, to our products. We’re seeing some success with their ProAqua — their soluble fertilizer.

CISBAY

The founders of Cisbay began the company by looking at different types of microbes with the goal of improving soil health.

“We begin to sequence and select the best of the best. Once we’ve done that, we went to the next step, which is we put the microbe in a combination (with other products), says Le.

The company has completed trials and offers its product in 10 countries. It is so confident in its product, the company offers a guarantee. If the promised return on investment is not realized, they will return 100% of the investment.

“When you grow something, it’s the first two feet (of soil) that matter.” Le says. “All your feeder roots are there. Most of the activity happens in the first two feet.”

In addition to helping restore soil health, Cisbay’s AGN product helps unlock the phosphate and nitrogen in the soil so the plant can access it better.

“Once you have a healthy soil, everything will grow; everything will be better, and health soils start with healthy microbes,” Le says.

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Microbes continued from page 21

COMPASS MINERALS

The goal of Compass Minerals' WolfTrax is to put the right nutrients on top of fertilizer, says Ryan Bartlett, Chief Transformation Officer. The micronutrient and secondary nutrient fertilizers are uniquely designed to coat onto dry fertilizer blends and deliver highly available nutrition through better distribution in the field than traditional granular fertilizers.

The powder coats fertilizer and helps decrease nutrient run off and is more efficient, Bartlett says.

Compass Minerals also touted its Rocket Seeds brand at the most recent Commodity Classic.

"An innovative, robust seed-applied nutritional, Rocket Seeds offers a portfolio of flexible, highly concentrated nutrient sources so young crops can better withstand early season cold and water stress while progressing through the vegetative growth stage," the company says.

SOUND AGRICULTURE

Sound Agriculture launched Source, a foliar application for corn that helps nutrient availability in the root zone, for use in 2020, says Eric Davidson, Co-Founder and CEO.

It is small-molecule chemistry with a single active ingredient, he says. "It is encouraging more root association from the root zone microbes and turning on the nitrogen fixation — phosphate-solubilization capabilities that are inherent in those microbes."

The company is also looking at products that deal with photosynthesis, water use, nutrient development, growth, and development — factors that are about the integration of the environment.

BRANDT

As today's tank mixes become more challenging, the need for "smarter" and more compatible foliar nutrition is increasing. BRANDT SMART SYSTEM foliar micronutrients were designed for superior performance in a wide range of complex crop protection tank mixes, including glyphosate and select dicamba and 2,4-D herbicides.

In addition, the company's new enzyme technology creates a rich soil environment around the seed. BRANDT EnzUp gets plants out of the ground faster, which extends the growing period and yield opportunity. ■

Dan Jacobs is Managing Editor for CropLife's sister publication, Agri-Business Global magazine, Willoughby, OH.

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President continued from page 3

members vs. Executive Directors, which topics needed to be voted on by membership vs. which topics could be handled by the board. Membership levels, voting processes, and better use of committees or task forces were all taken into consideration.

This is an ongoing project, but I assure you there was some GREAT discussion on how to preserve the original intent and function of the board while also clearing up some muddier waters in today's business environment. There will be an update on proposed changes for our membership to consider when we gather for Phase 2 of the Great Montana Ag Rally in Great Falls in August! Look for more info in this issue, but I guarantee this will be a fun, safe gathering that will allow us all to get together for business, laughs, and catching up with each other.

WE WANT TO HEAR FROM YOU

Obviously during the legislative session, MABA kept a close watch on proposed bills that would affect our membership. But as you know, there's a lot of issues that can arise outside of the walls of the Capitol. A big portion of MABA's duty is to provide continuing education, networking opportunities, promotion of our industry (and not just farming and ranching – the specific jobs we do to keep those farmers and ranchers moving and producing at maximum levels). But our board needs to hear what you're hearing throughout the state and country so we can address it through the proper channels. Having connections and good relationships with leaders on a state and national level can make a big difference!

If things like Hours of Service for transportation or misinformation to consumers about today's ag technologies pop up, let us know. If you would like to see better collaboration between Industry and University Research, let us know! I would love to hear from you on things that may arise and I know the rest of the board would as well.

Wishing you all a safe, prosperous spring – I'm excited to see you all in Great Falls in August for some good conversations, golfing, and catching up! ■

Congressional Comments



Jon Tester

*United States Senator
For the State of
Montana*

U.S. SENATOR JON TESTER

It's that time of year folks. With warmer weather coming our way, we're starting to seed here in North Central Montana.

Farmers across Montana will all tell you that this may very well be the most important part of the year for folks in our line of work—you've got to get seeds in the ground at the right time and have the inputs to set yourself up for a good crop when it comes time to harvest.

That's why it is critically important that farmers have the resources and proper tools they to have a successful season, and that all comes down to what we do in these few short weeks.

And it's the Montana Ag Business Association is a key role in promoting and advocating for Montana's family farmers and ranchers as well as Montana's ag industry as a whole.

They give farmers what we need to set ourselves up for our growing season, and ultimately harvest in August or September—depending on what we're growing.

So thank you to the Montana Ag Business Association for what you do, and good luck on a great growing season in 2021.

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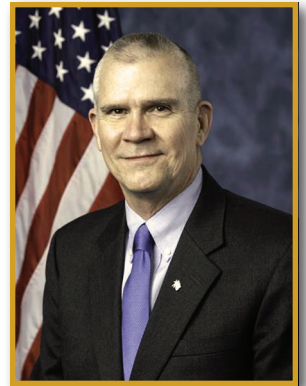
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U.S. REPRESENTATIVE MATT ROSENDALE



Matt Rosendale
US Representative
For the State of
Montana

As the country begins the debate once again on infrastructure it is clear that Montanans, especially those in agriculture, are in need of real infrastructure improvements.

In March of 2020, the St. Mary's Canal experienced a catastrophic infrastructure failure where the water supply for 18,000 users came to a halt, jeopardizing agricultural and livestock operations.

An estimated \$200 million is necessary to complete the rehabilitation overhaul. And due to a federal cost share, seventy-five percent of the maintenance costs of the system belong to stakeholders including irrigators, municipalities and individual contractors, while the federal government contributes only twenty-five percent.

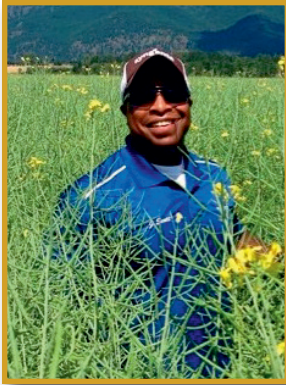
This is simply too expensive for those who rely on the St. Mary's Canal as their main source of water.

That's why I introduced the St. Mary's Reinvestment Act authorizing \$52 million for the rehabilitation of the St. Mary's Canal. This bill would also change the federal cost share from 25% to 75% to reduce the burden on local citizens.

I fully support infrastructure improvements that develop our irrigation systems, refurbish our highways, and improve the lives of the taxpayers who fund these projects. Montana farmers and ranchers are desperate for these repairs to be completed as soon as possible. ■



Know what's below. Tap, Click, or Call 811 Before you dig.



Johnnie Scott

Secretary

*Montana Agricultural
Business Association*

Points to Ponder

After living through the uncertain times of 2020, I think we have all learned that one of the few constants in life is change. Whether good or bad, it always seems to come around and is not concerned if you are prepared or not. Despite the hurdles that were thrown our way over the past year, we were able to adapt, and in most cases overcome obstacles and change for the better. We were able to embrace technology and provide you, our membership with virtu-

al services and seminars to live up to our mission statement: “To provide proactive leadership to assure viability of Montana Agribusiness.”

At the March MABA board meeting, the Board decided that some of our processes needed to be changed and some things needed to be updated to better serve our membership. This included changes/updates in our by-laws and a retooling of our committee structure to streamline responsibilities and enhance our communication to membership. The board decided to reduce our committees down to only three and rebrand the traditional committees as “task forces” to enhance effectiveness. A board member will serve as chair for each task force to facilitate and increase communication. As always, if you are interested in serving on one of the newly created task forces, please reach out to a board member.

In our industry change is nothing new, as we have always been a very resilient group. The Board is committed to bringing MABA more current by updating antiquated systems/processes to make the Association more efficient and effective and to better serve you. We truly appreciate the support from our members throughout a very challenging 2020 and look forward to serving you in 2021. Happy Spring! ■

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Buckwheat: A Hazard to Montana's Export Markets

As farmers prepare for spring planting, the Montana Wheat and Barley Committee is reminding producers to ensure that wheat shipments destined for export are buckwheat-free. In light of the ongoing global pandemic, food safety has become one of the most important factors for purchasers of ingredients. Montana exports 60-80% of its wheat to countries located in the Pacific Rim. Since Asian countries are large importers of Montana wheat, it is important that producers and handlers understand the serious health risk and potential economic impact posed by buckwheat.



Tame buckwheat is a deadly allergen in Asian countries. It is often compared to peanut allergies, carrying different levels of reaction severity, ranging from mild to extreme. The United States has taken precautionary measures to provide allergen safety in labeling, such as zero tolerance for unlabeled allergen exposure, which are the same efforts taken for exporting food ingredients.

The United States Department of Agriculture Natural Resources Conservation Service (USDA NRCS) has provided guidelines on this issue:

- Use of buckwheat must be excluded from cover crops plantings in rotation or adjacent to fields with wheat production or abstain from growing wheat as a commodity for 2 calendar years after planting buckwheat.

There is ZERO tolerance for export elevator deliveries exposed to buckwheat. Following an exposure, grain elevators may extend their rejection to refuse future deliveries from certain producers, meaning it is crucial that producers do not expose their operation to buckwheat in any form.

To protect and foster the health and prosperity of the Montana's wheat and barley industry, the Montana Wheat and Barley Committee is committed to educating producers about the dangers of buckwheat in a small grains rotation and surveying cover crop mixes across the state, including volunteer situations.

Established in 1967, the Montana Wheat and Barley Committee promotes research, marketing and education for the benefit of Big Sky Producers living, working and growing here in the Last Best Place.

For more information, visit www.montanawbc.com.

Or contact Sam Anderson, MT Wheat & Barley Committee, (406) 761-7732, Samuel.Anderson@mt.gov. ■

How Spot Spraying will Affect Sprayer Design

Some years ago, a friend recommended that I read *The Tipping Point* by Malcolm Gladwell. In this book, Gladwell tries to understand why some things catch on, and others don't. It's a compelling read full of Gladwell's trademark stories and his knack to deftly interpret scientific studies. He talks of connectors, mavens, and salesmen, as well as the "stickiness factor", a measure of how memorable something is, as keys to success of products and ideas. I think of the book often as I ponder the many good ideas in agriculture, many of which never see widespread adoption.

One of these good ideas is spot spraying. Green-on-brown detection was first introduced in the early 1990s. Anyone remember the Concord DetectSpray? It was great but had bad timing, as resistance wasn't a big issue and glyphosate prices were about to slide. Green-on-brown grew to the NTech (later Trimble) WeedSeeker a few years later. Rometron's WEEDit built on Trimble's success and found widespread adoption in Australia in the past ten years. Spot spraying did not gain any traction in North America during this time.

Australia is unique in many ways, not the least of which is their summer spraying practice. Summer is the hot, dry season where land is typically fallow and weeds are kept in check with herbicide sprays (aaaah, the serenity). Making several passes over a field, combined with the need to control some larger and hardy plants, is expensive, and a spot spray saves much of the cost. The savings can be put to use with more effective herbicide tank mixes that delay the onset of herbicide resistance. Spot sprays pay for themselves in short order Down Under.

It's more of a challenge in the northern plains of North America, where the fallow season involves snow cover and burnoff occurs in a short window before seeding and sometimes after harvest. But nonetheless, spot sprays have a fit for many of the same reasons.

WEEDit is the first system to make serious inroads in North America, with several dozen systems having been retrofitted to high-clearance sprayers. High

detection accuracy and hardware reliability is proven in three seasons.

On March 2, 2021, John Deere entered the Green-on-brown spot spray area with See & Spray Select. This not to be mistaken as competition. Instead, the entry of a major brand provides validation of the concept like only a large manufacturer can. Yes, we've reached a tipping point.

While the first Green-on-brown units are becoming established, Green-on-green, the ability to detect weeds within a crop, continues to be developed around the world. French startup Bilberry has made enough gains in Australia to bring its product to market with Agrifac, where it's called AIC Plus. In farmer field trials, they have achieved 90 per cent detection accuracy of wild radish in Western Australia, and claim that they are ready for broadleaf weed identification in wheat, barley and oats. Bilberry's technology will also be seen on Australia's Goldacres and France's Berthoud. Other startups, notably Israel's Greeneye Technology, plan to introduce a Green-on-green system in the U.S. in the near future. Amazone, the German farm equipment giant, partnering with Xarvio and Bosch, announced plans at Agritechnica to have a commercial unit for sale by 2021.

This technology will have significant impact on sprayer design philosophy. At present, productivity is synonymous with capacity, and large tanks with commensurate heavy and powerful tractor units dominate. Spot spraying savings will depend on weed density and hardware resolution, but 50 per cent to 90 per cent reductions in spray volume can be expected. A 1,600-gallon tank would no longer be necessary. The savings in frame weight and horsepower would be significant, as would the time savings from less intense tending demands. These savings would offset the lower driving speeds that accompany sensing technologies, and, overall, provide a lower bar for autonomous operation. We may see lighter specialty spot sprayers.

The savings in brute size will be countered by in-



creased sophistication. Better boom height management is essential for spot spraying, not just for the sensor to properly see the target and estimate the time needed for the boom to reach that spot, but also for the spot spray itself to deliver the right dose. In any fan spray, band width at ground level changes with height, and that, of course, is related to dose. Trailed booms can address this issue easily.

But not everyone wants a specialty spot sprayer that would require an extra pass over the field. With growing utility of soil residual herbicides, dual tank sprayers—small tank for the spot spray, large tank for the broadcast residual—make sense. Large sprayer frames can accommodate an additional smaller tank, second pump, and plumbed boom easily.

Plant detection and identification bring other opportunities. Adjusting dose for plant size is one of the first, or for harder to control weed species.

Spot sprays rely on fast, precise response of the nozzle, and this provided by fast-reacting solenoids that are part of pulse-width modulation (PWM) systems. On a broadcast sprayer, these solenoids can change the emitted dose instantly, within a certain envelope, by altering the duty cycle of the pulse. This, however, works best in the context of a boom with overlapping spray patterns. A single band spray would not change dose with duty cycle as easily.

Higher dosing would be an opportunity for multiple nozzle bodies that are able to spray one, two or more nozzles in the same spot simultaneously. These are already widely available and popular in Europe.

This also brings direct injection into play. Current systems introduce the active ingredient into the boom upstream of the nozzles, affording it time to mix into the water. For true spot spray utility, though, direct injection ought to be at the nozzle. Only then can custom mixes and rates be applied on a spot basis. It's been done before, if only to show how difficult it would be to deliver uniform doses to a spot spray machine.

Spot spray sensors have agronomic benefits. By recording the location sprayed, weed patches can be mapped.



As plant identification becomes possible, it's conceivable to obtain plant species and stage distribution maps from the spray pass. That would turn the sprayer into a high-resolution crop scouting tool. As machine learning and sensor sophistication grows, other plant and soil parameters can be mapped. The agronomic value of such maps, especially if created over the course of the growing season, is immense. Of course, data density, handling, storage, and analysis will constrain this.

If the past has taught us anything, it's that there seems to be an appetite for investment in farm equipment. Sprayers have been the most-used implement on the farm for some time, and their popularity continues despite sharp price increases. These new capabilities will only add value to these implements. Prepare for sticker shock, followed by acceptance and adoption.

What will a future spot sprayer look like? Although it will have tanks and booms, the level of electronic sophistication will make it so much more versatile we can't yet imagine all the ways in which it might be used. But it seems to me the situation has tipped and we're already accelerating toward that future. ■

TOM WOLF (NOZZLE_GUY)

Tom Wolf is based in Saskatoon, SK and has 31 years research experience in the spraying business. He obtained his BSA (1987) and M.Sc. (1991) in Plant Science at the University of Manitoba, and his Ph.D. (1996) in Agronomy from the Ohio State University. Tom focuses on practical advice that is research-based to improve the efficiency of producers. He also rides a unicycle to the office most days.

Great Montana Ag Rally

PHASE I

In true Agriculture form, MABA saw the challenge and faced it head on with an amazing online program to provide critical information and education resources for our membership. The Great Montana Ag Rally Phase 1 was a resounding success.

Phase 1 of the Rally involved a series of webinars presented by experts in our industry. There were 14 distinct webinars. The first sessions were held in December and they continued through the first week of March. The intent with the webinars was to help meet the needs of our membership for continuing education and training. There were over 530 attendees through out the term of Phase 1 and we have had great comments on the value of the training.

If you missed a session or two and are interested in viewing them they are all available on the MABA YouTube Channel and MABA Website. You won't be able to get points because attendance can't be verified but the information is worth your time!

A huge THANK YOU to our sponsors of the Great Montana Ag Rally – Phase 1. The program wouldn't have been such a great success without your strong support and commitment to MABA! ■



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GREAT MONTANA AG RALLY

The Great Montana Ag Rally

PHASE II — AUGUST 25 - 26, 2021

In the fall of 2020, the MABA Board faced a very hard decision regarding the MABA/MGEA Annual Convention and how, if, when, where the convention should be held. The Board developed a unique solution in the two-phase Great Montana Ag Rally. After a very successful Phase I we are looking forward to a great Phase II where all our members can meet in person and have the critical opportunity to continue to build relationships and opportunities within our industry.

The Great Montana Ag Rally – Phase II will consist of the first annual Great Montana Ag Rally Golf Scramble and other social events. Get your teams together and get ready for a really fun event that will include a Calcutta on Wednesday evening, golf tournament on Thursday, and an auction, banquet, and music on Thursday evening. Registration and Sponsorship information is on pages 34-35. ■





GREAT MONTANA AG RALLY

MABA Great Montana Ag Rally Golfing for a Cause — 2021

You may register a four-man team or as an individual golfer.
We ask that all players be MABA or teams sponsored by a MABA member.

Contact Name: _____

Contact Address: _____

Email: _____ Phone: _____

TEAM OR GOLFER REGISTRATION

GOLF TEAM | Team Fee - \$600.00

4 players, includes course fee, Calcutta dinner, Golf day breakfast and Banquet/Auction meal

Do you need a cart or carts? | Golf Cart Rental - \$50.00 | How many carts _____

INDIVIDUAL GOLFER | Individual Golfer - \$150.00

Includes course fee, Calcutta dinner, Golf day breakfast and Banquet/Auction Dinner

Team Name: _____

Player #1: Name: _____ Handicap _____

Player #2: Name: _____ Handicap _____

Player #3: Name: _____ Handicap _____

Player #4: Name: _____ Handicap _____

Golfer Registration includes all meals:

Calcutta Dinner | Golf Day Breakfast | Golf Day Lunch | Banquet/Auction

Additional meals for guests also available for purchase at the event

Calcutta Dinner: \$40 | Breakfast: \$15 | Banquet/Auction: \$40

Please go to **mtagbiz.org** to register!
We look forward to seeing you in August!



Great Montana Ag Rally Sponsorships

Golf tournament partners receive acknowledgment in the MABA Growing Montana Magazine and at the event.

Your company logo linked to your website is posted on the MABA website golf tournament partner page for the entire year!

Business fliers may be included in the golfer registration bags.

*Please go to www.mtagbiz.org to provide your sponsorship information!
Sponsorships are first come/first served. | Thank you for supporting MABA!*

HOLE SPONSORSHIPS

A prize valued at \$100 is awarded on the sponsor's behalf during the Evening Banquet/Auction. The sponsor may donate the prize or pay an additional \$100 and MABA will purchase the prize.

Hole Sponsorship - \$500

DETAILS

- *Golfers will see your company name displayed at the tee box of the sponsored hole - can't miss it!*
- *Your company name and logo will be displayed prominently with the hole prize during the Calcutta dinner. Verbal acknowledgment of your company's hole sponsorship during the Banquet/Auction.*
- *18 hole sponsorships are available.*

MEAL SPONSORSHIPS

Calcutta Dinner - \$3,500

Golf Day Breakfast - \$2,000

Golf Day Lunch - \$2,000

Auction/Banquet - \$2,500

DETAILS

- *As the exclusive meal sponsor, your company's name will be displayed on a large sign at the event. Can't miss it!*
- *You will have an opportunity to be introduced and say a few words at the event.*

DRINK TICKET SPONSORSHIPS

Calcutta Evening Drink Tickets - \$1,500

Golf Day Drink Tickets - \$1,500

Auction/Banquet - \$1,500

DETAILS — *The Drink Ticket sponsors are very popular!*

- *Your company logo will be displayed prominently on the drink tickets; one given to each golfer.*
- *Drink Ticket sponsors receive extra tickets to hand out during the event.*
- *Verbal Acknowledgment as drink sponsor.*

OTHER PARTNERSHIP OPPORTUNITIES

Team Photos - \$1,000

Banquet Band - \$1,000

Mulligans - \$500

Golfer Bags - \$500

Putting Green - \$500

Driving Range Balls - \$500

COURSE SPONSORSHIP

General Sponsorship - Minimum \$200

DETAILS

- *Team Photos: your sponsor name on every team photo sent to each golfer and posted on the MABA website.*
- *Banquet Band: prominent signage and recognition during dance/band.*
- *Mulligans: includes company name/logo on mulligan cards distributed to every team.*
- *Golfer bags: sponsor provides their logo'd 12x15 vinyl bags provided to each golfer.*
- *Putting Green: includes a prominent sign at the putting green.*
- *Driving Range Balls: includes a prominent sign at the driving range.*
- *Course Sponsorship: you choose the amount of investment, \$200 and up. Course sponsors receive signage at the #1 tee box by the clubhouse.*

Please go to mtagbiz.org to become a sponsor!

Please submit payment to: Great Montana Ag Rally | PO Box 7325 | Helena, MT 59604

Montana Fertilizer Advisory Committee

The 1971 Montana legislature approved an assessment on commercial fertilizers to provide funding for soil fertility and soil management education and research programs in Montana. The statute outlines assessment, allocation, educational and experiential programs and meetings and functions of the advisory committee. The intent is to help develop the most accurate information possible concerning fertilizer use and soil management, in an effort to maximize agricultural profits and protect the environmental quality across Montana's many diverse soils and climatic conditions. The Act provides an advisory committee of seven members, jointly appointed by the directors of the Montana Agricultural Experiment Station and the Montana State University Extension, who also provide administrative and program support. Five committee members must be involved in agriculture and use fertilizer and two members must represent the fertilizer industry. The current industry representatives are Brad Weaver, CF Industries and Ryan Lammers, CHS. Each member serves a five-year term. The Director of the Montana Department of Agriculture serves as an ex-officio member. MSU scientists with MSU Extension and the Montana Agricultural Experiment Station have a responsibility for developing and implementing the education and research programs.

Nine new projects have received funding from the Montana Fertilizer Advisory Committee to explore the science and best practices of various aspects of agricultural fertilizer.

The MFAC was created by the Montana Legislature in 1971 to fund education and research programs related to soil fertility and management in the state. The committee comprises seven members appointed by the directors of the Montana Agricultural Experiment Station and MSU Extension, five who are agricultural producers who use fertilizer in their operations and two representing the fertilizer industry. Scientists with MSU Extension and MAES develop and implement the education and research programs.

“The MFAC is a critical part of research and advanced understanding of fertilizer use, especially across the diverse landscapes we have in Montana,” said Mary Burrows, associate director of MAES. “The partner-

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ships this committee facilitates and the incredible potential of the field of soil sciences are evidenced by the fantastic array of projects that the committee has made possible this year."

In addition to its advisory and funding capacity, the MFAC creates and distributes fertilizer fact sheets for producers and the public. Fact sheets can be found on the Department of Land Resources and Environmental Sciences website and are free to download.

Research projects funded by the MFAC for the 2022 fiscal year include:

- Replacement of a combustion analyzer for measuring dissolved carbon and nitrogen in MSU's Environmental Analytical Lab.
- "Determining Optimal Nitrogen Fertilization of Selected Warm Season Grasses for Yield and Quality," a project at MSU's Northwestern Agricultural Research Center in Kalispell.
- On-farm experiments to optimize site-specific application of nitrogen fertilizer rates to maximize producer profits, a state-wide project.
- "Do We Need Phosphorus Fertilizer at Depth in No-till Systems?" a project at MSU's Northern Agricultural Research Center in Havre.
- "Relationship Between Fertility Management and Malt Quality Advance Spring Barley Lines," an interdisciplinary project between MSU's Department of Plant Sciences and Plant Pathology, the Southern Agricultural Research Center in Huntley and the Northwestern Agricultural Research Center.
- Funding for a research analytical chemist position in MSU's Environmental Analytical Lab.
- "Phosphorus and Potassium Fertilization of Dormant to Semi-dormant Alfalfa," a project at the Northwestern Agricultural Research Center.
- "Long-term Nitrogen Management in Alternative Crop Rotations," an interdisciplinary project between the Department of LRES and the Department of Animal and Range Sciences.
- "Enhancing Nitrogen Fixation in Pea and Lentil through Breeding and Management," a collaboration between the departments of Plant Sciences and Plant Pathology and LRES.
- "Examining the Role of Nitrogen in Wheat Growth and Yield in Response to Increased Starch Biosynthesis," a project in the Department of Plant Sciences and Plant Pathology.

More information about the Montana Fertilizer Advisory Committee can be found at <https://agriculture.montana.edu/mfac/index.html>. ■

Entry-Level Driver Training (ELDT)

COMPLIANCE DATE: FEBRUARY 7, 2022

FMCSA's Entry Level Driver Training (ELDT) regulations were mandated under the Moving Ahead for Progress in the 21st Century Act (MAP-21).

ELDT regulations set the baseline for training requirements for entry-level drivers. This includes those applying to:

- Obtain a Class A or Class B CDL for the first time;
- Upgrade an existing Class B CDL to a Class A CDL; or
- Obtain a school bus (S), passenger (P), or hazardous materials (H) endorsement for the first time.

The ELDT regulations are not retroactive; ELDT requirements do not apply to individuals holding a valid CDL or an S, P, or H endorsement issued prior to February 7, 2022.

If an applicant who obtains a CLP prior to February 7, 2022, obtains a CDL before the CLP or renewed CLP expires, the applicant is not subject to the ELDT requirements.

Any individual who meets one of the exceptions for taking a skills test in 49 CFR Part 383 is also exempt from the ELDT requirements.

TRAINING

Once operational, the FMCSA Training Provider Registry will retain a record of which CDL applicants have completed the new training and certification process outlined in the Entry-Level Driver Training (ELDT) regulations.

To be authorized to provide entry-level driver training, training providers must register with FMCSA. During registration, training providers must self-certify that they meet all applicable Federal and State requirements:

- At least two years of experience driving a CMV requiring a CDL of the same (or higher) class and/or the same endorsement; or
- At least two years of experience as a behind-the-wheel CMV instructor.

Only registered training providers will:

- Be listed on the Training Provider Registry website (publicly viewable in late 2021).
- Be able to submit driver training certification information to FMCSA (beginning on February 7, 2022).

Training providers are required to register even if they do not provide training to the general public. Providers may omit their contact information from the public list.

The CDL applicant searches the list of training providers on the Training Provider Registry website, contacts the training provider and secures their services, and successfully completes required training.

The trainer submits driver training certification information to FMCSA electronically via the Training Provider Registry.

- Driver information must be submitted by midnight of the second business day after the driver-trainee completes the training.
- Must be done for each student when that student completes a training program. ■

The training will be two categories.

THEORY TRAINING

Lectures, demonstrations, computer-based, online learning, etc. No minimum number of hours; trainees must score at least 80% on assessment

Training topics include:

- Basic Operation
- Safe Operating Procedures
- Advanced Operation Procedures
- Vehicle Systems and Reporting Malfunctions
- Non-Driving Activities (e.g., Hours of Service)

BEHIND-THE-WHEEL TRAINING

Actual operation of a CMV

Takes place on a range or public road

May not use a simulator to meet requirements

No minimum number of hours, training provider will determine driver's proficiency

Basic vehicle control skills and mastery of basic maneuvers

For more information, you may contact: Bruce Holmes, FMCSA Montana Division, 406-444-8680, bruce.holmes@dot.gov

OR

Go to the FMCSA website for more information about the ELDT regulations and the Training Provider registry, visit <https://tpr.fmcsa.dot.gov>.



Governor Gianforte Lifts Regulations for Fertilizer Delivery to Support Montana's Ag Industry

Governor Greg Gianforte issued an executive order today that temporarily suspends hours of service regulations for certain carriers to facilitate and expedite the delivery of fertilizer to Montana's farmers.

Agriculture producers regularly face a compressed spring planting schedule due to late snowfalls and wet conditions which increase the demand for anhydrous ammonia and fertilizer across the state. Waiving hours of service requirements ensures that fertilizer haulers can meet the needs of the industry by delivering greater volumes in a short timeframe.

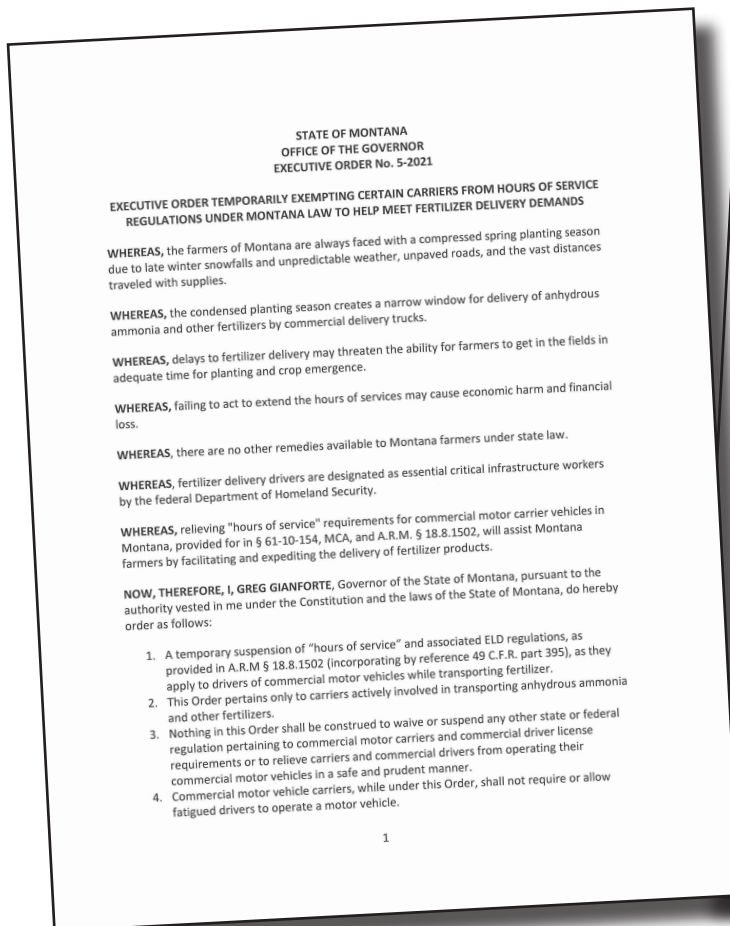
"We need to do everything we can so Montana farmers can get in the field to plant and produce their crops when they need to," Governor Gianforte said. "Limiting access to necessary inputs threatens their effective, timely planting. Today's executive action

halts regulations so our farmers can receive needed fertilizer without unnecessary delay."

"Every day counts for Montana's farmers, and farm inputs like fertilizer are crucial to the success of their operations," said Mike Foster, Director of Montana Department of Agriculture. "The Governor's decision to waive hours of service regulations this spring guarantees that our producers have what they need to get out in the field and plant as soon as the conditions are right for them to do so."

The order pertains only to carriers actively involved in transporting anhydrous ammonia and requires haulers to operate safely and prudently.

The order is effective from April 1 to June 6, 2021 and can be found here. https://governor.mt.gov/_docs/EOs/EO-5-2021.pdf.





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