

Growing Montana

FALL 2023



2023 MABF
**SCHOLARSHIP
WINNERS**

2024 MABA/MGEA
**ANNUAL CONVENTION
& TRADE SHOW**

WASHINGTON,
D.C.
REPORT

A Publication of
MONTANA AGRICULTURAL BUSINESS ASSOCIATION

TABLE of CONTENTS

President’s Message..... 3

2023 MABF Scholarship Winners.....4

Welcome New Members4

2024 MABA/MGEA Annual Convention & Trade Show 5

MABA Annual Meeting 7

Board of Directors Nomination Form..... 7

Are Spot Sprayers a No-Brainer?.....10

Draft Herbicide Strategy Framework13

MSU Research Tops \$200 Million14

2024 MT Ag-Tech Innovations & Investment Summit17

Montana Department of Agriculture Updates18

Congressional Comments 20

Points to Ponder: The Great Reset 22

Chamber AgTech Tour..... 23

Washington, D.C. Report 24

OSHA Safety Data Sheets 26

2023 MABA Great Montana Golf Rally Results 30

Protecting Species: Adjuvants to the Rescue..... 32

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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

Happy Fall to everyone!! Just like my earlier messages I must start by saying Thank You! The golf tournament in July was again a success and I am confident this event will get better every year as we grow and learn with your help. To the sponsors and participants, we are so grateful for your support! We cannot make these events happen without your continued generosity and involvement. The year end is quickly approaching and as I look back at 2023, I feel we have been successful and are ending on a positive note. The future of MABA is bright and I am excited for the next steps and what impacts it will have.

As I was contemplating what to write about for my last Presidents Message, I found myself reflecting on the time I have spent on the MABA board, and all the memories made. The first year serving on the board I had no idea what to expect. As a newcomer, I was nervous, quiet, and just wanted to watch and learn. But, as the meetings went along, I found it easier to speak up and contribute. The existing board welcomed me and encouraged and pushed me to take part and I am forever grateful for it all. The folks who make up this association and serve on the board love Agriculture and Montana and it is contagious when you are around it. I am happy I did not say no to this amazing opportunity. I have learned so much and met more people than I thought I ever would. Being on the MABA board has made me better personally and professionally. My parting message to all of you is to get involved in something (preferably MABA). Step out of your comfort zone and take that first step to help yourself grow and to be part of something that matters.

I am excited to see each of you in January at the Annual Convention in Great Falls! If you ever have questions or need help with something, please reach out to a board member or Krista. Again, Thank You!!

As always, please look out for one another and stay SAFE! ■



Jake Yates

President

*Montana Agricultural
Business Association*



2023 MABF Scholarship Winners

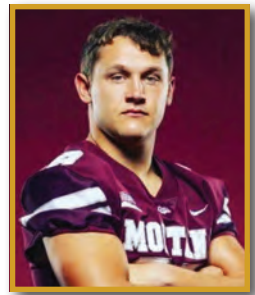


At the Montana Agribusiness Foundation (MABF) we encourage and support the legends of tomorrow. We strive to provide scholarships to the next generation of Montana agriculturalist. These scholarships are designed to aid students in achieving their educational goals and to help them prepare for their future and the future of Montana agriculture. The students to the right are the recipients of the 2023 MABF scholarship. Please help us in congratulating and encouraging them in their future endeavors.

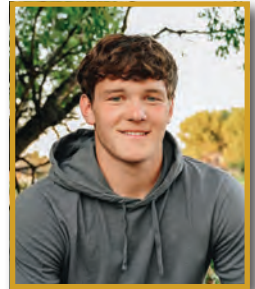
Go like and follow our Facebook page to stay up to date with our current happenings. Please email us at mtagribusinessfoundation@gmail.com with any questions about our foundation or about the process to donate. If you are interested in being a part of the MABF please send an email to us to get started. Thank you for your continued support of our Montana youth.

Sincerely,

Nathan Brooks, MABF President ■



Marcus Evans



Wyatt DeVoss



Carrie Killen

Welcome To Our New Members!

In 2023, MABA added 5 new memberships! Please join us in welcoming our new members:

Stockman Bank of Montana	Standard Membership
Vive Crop Protection	Standard Membership
AgXplore International, LLC.	Standard Membership
Tessengerlo Kerley	Standard Membership
Vantage America West	Standard Membership

Thank you for your support! We look forward to working with you all. ■





2024 MABA/MGEA Annual Convention and Trade Show

JANUARY 24-26, 2024 – HERITAGE INN, GREAT FALLS, MT

The Annual MABA/MGEA Convention will provide a great opportunity for MABA members to learn, share experiences, and collaborate with colleagues. If you've never been to the convention, you should certainly make plans to attend this year's event. The event is host to professional speakers from across North America and over 500 attendees that are active in Agricultural Business in Montana.

Here's what you can expect at the "Operating in a Global Market at Home" conference:

- Certified Crop Advisor (CCA) Points
- MT Department of Agriculture Points
- Over 60 vendors participating in the trade show
- Outstanding speakers
- Information pertinent to your businesses and employees

MABA takes the needs of its membership very seriously and it is for this reason that the MABA ensures that there are Certified Crop Advisor (CCA) and Department of Agriculture points available for all the sessions!

The "Operating in a Global Market at Home" agenda includes discussions on Thermal imaging opportunities, Value added fertilizer, How to apply herbicide in developed area and avoid landowner complaints, Geopolitics, Site Security, an Ag Economic Update, War on Weeds, and

other great topics. For those who have attended in the past you will see a new look to the Friday morning. All four sessions are going to focus on regenerative agriculture topics! These topics include soil biology, changing cultural practices to enhance natural sawfly management, establishment, and management of cover crops in dryland applications as well as the role of cover crops in regenerative agriculture.

The MABA Annual Convention also provides an exciting opportunity for new agriculture professionals through a meet and greet and luncheon. During the luncheon there will be an opportunity for veterans and new professionals to share challenges, concerns, opportunities and to create relationships to further build the professionalism of our industry. The New Agriculture Professionals Meet and Greet is scheduled for Thursday, January 25 at Noon.

The annual convention is a great opportunity for leaders in the Montana Agricultural Business Community to come together and share ideas, solutions, and challenges.

Thursday evening presents an opportunity to support Montana's youth agricultural programs. Each year, MABA and MGEA select an entity to receive the profits from the Thursday night social and auction. This year the proceeds will go to Montana FFA Foundation and Montana 4H Foundation to support our endowed scholarships with those organizations.

Convention continued on page 6



PESTICIDE RECERTIFICATION AND PROFESSION TRAINING OPPORTUNITIES

Wednesday morning of the MABA/MGEA Annual Convention and Trade Show is set aside for the Pesticide Recertification Workshop. The 2023 agenda does not disappoint and includes expert speakers and discussions related to Seed Treat – Mixing micronutrients and seed treatments, Herbicide choices and evolution of herbicide combinations – what’s leaving and what’s coming. CCA and Department of Agriculture points will be offered for this event.

Keynote Speaker at the 2024 MABA/MGEA Convention

DR. KEVIN ELKO



Dr. Kevin Elko received his Bachelors in Biology Education and Coaching from California University of Pennsylvania where he was later inducted into the University’s Hall of Fame. He then went on to West Virginia University where he received two Masters and a Doctorate and was later inducted into the West Virginia University Hall of Fame.

Originally, Kevin had a successful private family practice, but eventually entered the world of pro and collegiate sports, where he has accumulated 30 Superbowl titles or National Championships with storied organizations like The Pittsburgh Steelers, The Dallas Cowboys, The Philadelphia Eagles, The Green Bay Packers, Florida State Football, L.S.U. Football, The University of Miami Football, The University of Alabama Football, and more.

Kevin also works one on one with some of the biggest named athletes in all of professional sports from baseball to tennis to hockey. As a performance consultant, his corporate clients over the last two decades have included many of the Fortune 1000 companies and their C-Suite executives.

Kevin is a bestselling author with five books published, and a sixth on the way, including: *Nerves of Steel*, *The Pep Talk*, *True Greatness* and his latest, *Believing is Seeing*, of which the forward was written by the greatest coach in college football history, Nick Saban. Kevin has worked closely with Saban during every one of the seven National Championships he has won as head coach of LSU and Alabama Football.

Kevin had been featured by numerous publications and national media including ESPN.com, Sports Illustrated, The Bleacher Report, and on ESPN Radio with his very own segment, “The NFL Psychological Report”. He has keynoted at the NFL Hall of Fame Ceremonies as well as many other notable events in and out of sport. ■

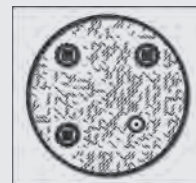
Convention continued from page 5

The MABA/MGEA Annual Convention brings together friends and acquaintances from across the state and country and provides a significant opportunity for networking. The breakout sessions are appropriate for management as well as employees and we look forward to seeing all of you in Great Falls in January!

To sign up to be a sponsor, vendor or to register for the “Operating in a Global Market at Home” Convention please go to the www.mtagbiz.org website and click on the Convention banner or contact the office at agbusinessmt@gmail.com and we will get you all set up!

OR visit the appropriate registration site using the QR Codes below:

CONVENTION SPONSOR/VENDOR



CONVENTION ATTENDANCE REGISTRATION



Participate in the Future of YOUR Association

The MABA/MGEA Annual Convention brings an opportunity for members to reconnect with colleagues as well as gain a better understanding and knowledge of the vast issues facing our industries. One of the most important agenda items that is often overlooked by members is the Annual Meeting! MABA exists to serve the needs of its membership and it is critical that MABA membership provide feedback and guidance to the Board.



The MABA Annual Meeting will give you an opportunity to hear about the work conducted during the previous year, objectives for the upcoming years, financial health of the association, selection of board members, and a general discussion to bring everyone up to date.

Please become an ACTIVE member in YOUR association so that MABA can continue to thrive and represent Montana's agricultural businesses.

MABA ANNUAL MEETING

Wednesday, January 24, 2024 – 1:30 PM
A/B/C Rooms – Heritage Inn, Great Falls

Montana Agricultural Business Association

BOARD OF DIRECTORS NOMINATION FORM

The MABA Board of Directors works diligently to represent, support, and protect Montana's agricultural businesses and all the associated issues. Active participation from MABA Membership is crucial to having a board that represents all facets of this diverse and exciting industry.

Serving on the MABA Board is a great opportunity to increase your (or a coworker's) understanding of environmental, legislative, and regulatory issues facing Montana businesses! This is a great leadership opportunity that will benefit the individual board member but also the company that they represent. Please take a minute and nominate an individual to serve a 3 year term on the MABA Board of Directors.

Name: _____

Company: _____

Phone: _____ Email: _____

You can email this form to agbusinessmt@gmail.com, Mail to MABA, PO Box 7325, Helena, MT 59604;
OR simply fill out the form online at www.mtagbz.org.

Those elected will be the nominees receiving the most votes for the number of vacant positions and is not dependent upon the type of business or location of the business. All directors will be elected to serve 3-year terms. ■





2024 MABA-MGEA CONVENTION SPONSOR / VENDOR CONVENTION CONTRACT



Company _____

Name for Badge _____ Phone _____

Address _____ Fax _____

City, State, Zip _____ Email _____

MABA and MGEA will provide night security on Tuesday and Wednesday evenings from 10pm to 6am, but assume no liability for damage to or loss of exhibitors' property or for any losses in case of inability to provide exhibit space due to fire, earthquake, storm, riot, strike, civil insurrection or war.

TRADE SHOW Sub-Total \$ _____

Booths are \$450 if paid **by** Nov. 15, 2023; \$500 if paid **after** Nov. 15, 2023 o Please reserve our same booth(s) space
o We would like a different booth space. The booth numbers that I would prefer (written in order of priority) are:

o We are a new exhibitor. (With this layout, all booths get excellent traffic. We try to place space between competitors.) The booth numbers that I would prefer (written in order of priority) are:

SPONSORSHIP Sub-Total \$ _____

Sponsorship options are first-come, first-served. Options are listed on the MABA website at www.mtagbiz.org.
The option numbers that I would prefer (written in order of priority) are:

Registration is included for one person with each booth or sponsorship.

ADDITIONAL REGISTRATIONS Sub-Total \$ _____

For additional individuals, please enclose \$105/person if they are attending the convention only or \$135/person if they are attending both the convention and the pesticide workshop and list their names below.

Name(s)	City
_____	_____
_____	_____

o Please check if additional persons are attending and write those names on a list and attach to this form.

CONTRIBUTION TO AUCTION Sub-Total \$ _____

Donation to Montana Agricultural Business Foundation Sub-Total \$ _____

TOTAL \$ _____

Online Payment is preferred at www.mtagbiz.org or

o Check Enclosed o Check will be sent from my company headquarters

o Charge to: o VISA o Mastercard or o American Express

Number: _____ Exp. Date: _____

Name on card: _____ Address: _____

Zip Code: _____ 3 or 4 digit code _____

Signature: _____

MAIL TO: MABA-MGEA Convention • PO Box 7325 • Helena, MT 59604
EMAIL: mabamgea@gmail.com • **SIGN UP ONLINE:** WWW.MTAGBIZ.ORG



2024 MABA – MGEA Convention & Pesticide Workshop



Heritage Inn – Great Falls, Montana

January 24– January 26, 2024



Company _____
 Contact _____ Phone _____
 Address _____ Fax _____
 City, State, Zip _____ Email _____

Refund Policy: A full refund will be given if the request is received in writing by fax, mail, or email at least one week before the convention begins. Beginning Monday of the convention week, no refund will be given except under unusual circumstances such as medical emergencies or death.

Convention AND Pesticide Workshop – \$200/person Meals are included with your registration.

Name	Address	Fee
_____	_____	_____
_____	_____	_____

Please Enter Total (attach additional sheets as necessary)	Sub-Total	\$ _____
Additional Purchases or Contributions – <u>Meals are included with your registration.</u>		
Montana Ag Business Foundation Cash Donation		\$ _____
Silent Auction Cash Donation		\$ _____
Additional Wednesday Lunch Tickets (\$15 each)		\$ _____
Additional Thursday Lunch Tickets (\$15 each)		\$ _____
Additional Thursday Night Key Note Speaker and Dinner Tickets (\$50 each)		\$ _____
	Sub-Total	\$ _____
Total of registration package and additional items	TOTAL	\$ _____

Online registration is preferred at www.MTAGBIZ.ORG or use the QR codes.

Credit Card Payment (all credit card payments will be assessed a 3% fee):

Charge to Visa ___ Master Card ___ or American Express ___

Number: _____ Exp. Date _____

Name on card: _____ Address: _____

Zip Code: _____ 3 or 4 digit code _____ Signature _____

Please return to MABA/MGEA Convention, PO Box 7325, Helena, MT 59604/Email:mabamgea@gmail.com/Questions:
 Call Krista 406.439.2215(c)/REGISTER ONLINE AT WWW.MTAGBIZ.ORG



Are Spot Sprays a No-Brainer?

By Tom Wolf (Nozzle_Guy)

At first glance, spot sprays are a no-brainer. Why spray a whole field when you can save product by spraying just the weeds?

But then the first commercial green-on-green systems introduced user fees, complicating the cost equation. Companies sell the hardware, and charge a fee for use of their detection algorithms.

Currently, costs range from \$3 to \$4 per acre, and this fee is either applied once per season (no matter how many times the algorithm is used on a specific field) or each time the system is deployed. As of September, 2023, Bilberry (via Agrifac as AICPlus, but also via Goldacres

in Australia and Dammann in the EU) was using the former approach, and John Deere with See & Spray Ultimate in the US was using the latter. Greeneye is not charging fees. For Green-on-Brown systems, the likes of Rometron's WeedIT and Trimble's Weed-Seeker, no fees are charged.

Fees essentially identify a pesticide price point below which spot sprays are not economical. Let's take an example of a \$4.00 per acre price of herbicide, broadcast (column 1 in Table 1). The "Gross Cost" of the broadcast treatment is simply the cost of the herbicide. For a spot spray, if a specific field requires just 25% of the herbicide (a 75% saving), the herbicide cost is \$1/acre (column 2). Add a \$4.00 per acre algorithm fee, the Gross Cost is \$5.00 per acre. Broadcast spraying would cost \$4.00 per acre, less than the spot spray cost. The cost for herbicide at which spot sprays become economically interesting is therefore above \$5.00 per acre.

The gross cost of a spot spray pass can be calculated as follows:

- Gross cost = (pesticide price * use rate) + use fee
- Where "use rate" is the proportion of the field sprayed with the product.

Table 1: Spray cost scenarios for low value crops and herbicides

	Broadcast	Spot (with fee)	Spot (with fee)	Spot (no fee)	Spot (no fee)
Use fee	\$ -	\$ 4.00	\$ 4.00	\$ -	\$ -
Product price	\$ 4.00	\$ 4.00	\$ 4.00	\$ 4.00	\$ 4.00
Product use rate	1	0.25	0.5	0.25	0.5
Product expense	\$ 4.00	\$ 1.00	\$ 2.00	\$ 1.00	\$ 2.00
Gross Cost	\$ 4.00	\$ 5.00	\$ 6.00	\$ 1.00	\$ 2.00
Miss cost	\$ -	\$ 5.00	\$ 5.00	\$ 5.00	\$ 5.00
Net Cost	\$ 4.00	\$ 10.00	\$ 11.00	\$ 6.00	\$ 7.00
Crop health benefit (\$10)	\$ -	\$ 7.50	\$ 5.00	\$ 7.50	\$ 5.00
Net Cost	\$ 4.00	\$ 2.50	\$ 6.00	-\$ 1.50	\$ 2.00

Now let's assume a weedy field, one in which only a 50% saving is possible (column 3). Herbicide cost is now \$2/acre, added to the \$4.00 algorithm fee, for a total cost of \$6.00 per acre (column 3). The weedier the field, the higher the herbicide price needs to be for a spot spray to be justifiable. Spot sprays without fees, on the other hand, allow the user to keep all the savings (columns 4 & 5), and will be the most economical option no matter the herbicide cost.

But that's not the whole story. Spot sprays aren't perfect. Companies are quoting a minimum weed size of about ¼" diameter (say, 6 mm), below which the plant can't be detected. Some weeds are invisible due to shading by crop residue or other plants.

The technological answer to this problem is to implement a low-rate broadcast spray in the background. The lower rate is sufficient to kill the smallest weeds, but it reduces the overall savings. Current systems are capable of doing this due to their use of PWM valves that can deliver broadcast and spot sprays at the same time from the same nozzles.



Use of a background spray adds to the herbicide costs. If a 30% broadcast background spray were used in this example, it would add $\$4.00 \times 0.3 = \1.20 to the cost (not shown in table). The assumption is that the lower rate broadcast would easily kill the smallest weeds that were undetected, without adding to the likelihood of resistance development from under-dosing. The assumption is also that large weeds weren't undetected.

Users who opt for a spot spray with no background run the risk of having misses that would not be incurred with a broadcast spray. The cost of these misses depends on the situation. In some cases, it is inconsequential. A tiny weed may not cause much harm if the crop is larger and growing vigorously.

But what if the weed is competitive, and could ultimately cause yield loss? A re-spray may be required. What if this weed later causes harvesting difficulties that may necessitate a desiccation spray? What if it is resistant, and its seed production causes problems in the future? Those costs need to be considered.

In this case, we are assuming the cost of a miss at a conservative \$5.00 per acre, which could be the cost of operating the sprayer for a re-spray. The cost would apply to all spot sprays equally, but not to the broadcast spray. Now the broadcast spray, still at \$4.00 per acre, is the most economical.

There are also potential benefits to consider. One is the yield loss caused by the application of a herbicide with low crop safety. Think of Status (dicamba and diflufenzopyr) in corn, or metribuzin in lentils. Limiting the exposure of the crop to the herbicide reduces the potential yield loss. We rarely consider this effect because it is quite uncommon, but when it does occur it's offset by the yield benefit of removing the weeds. Spot spraying can also open up new uses for herbicides with low crop safety.

Let's assume the yield benefit of avoiding phytotoxicity to the crop is \$10 per acre. We'll apply this saving to the proportion of the field that is not sprayed. The spot sprays regain their advantage, but only in cases where the weed density was low or no fees were charged ("Crop Health Benefit", Table 1). Where weeds were sprayed in larger proportions of the field area, yield benefits were reduced.

We repeat the whole exercise for a higher value crop, with more expensive treatments but also higher penalties for misses and greater crop phytotoxicity costs.

First considering only the "Gross Cost" scenario, the advantage of the spot sprays grows in this scenario (Table 2). But when the cost of a miss is added, it's surprisingly close. As in the lower cost example in Table 1, the broadcast spray remains relatively competitive even with higher costs.

Table 2: Spray costs for higher value herbicides and crops

	Broadcast	Spot (with fee)	Spot (with fee)	Spot (no fee)	Spot (no fee)
Use fee	\$ 0.00	\$ 4.00	\$ 4.00	\$ 0.00	\$ 0.00
Product price	\$ 20.00	\$ 20.00	\$ 20.00	\$ 20.00	\$ 20.00
Product use rate	1	0.25	0.5	0.25	0.5
Product expense	\$ 20.00	\$ 5.00	\$ 10.00	\$ 5.00	\$ 10.00
Gross Cost	\$ 20.00	\$ 9.00	\$ 14.00	\$ 5.00	\$ 10.00
Miss cost	\$ 0.00	\$ 10.00	\$ 10.00	\$ 10.00	\$ 10.00
Net Cost	\$ 20.00	\$ 19.00	\$ 24.00	\$ 15.00	\$ 20.00
Crop health benefit (\$20)	\$ 0.00	\$ 15.00	\$ 10.00	\$ 15.00	\$ 10.00
Net Cost	\$ 20.00	\$ 4.00	\$ 14.00	\$ 0.00	\$ 10.00

When we add a potential crop health benefit of \$20/acre, the spot sprays regain their larger advantage.

Using the herbicide price as the variable and plotting the broadcast and spot spray costs, the place where these lines cross is the herbicide cost below which the broadcast application is most economical. In the example below, the use fee was \$4.00, and the miss cost was \$5.00. As expected, the "no fee"

Spot Sprays continued on page 12



Spot Sprays continued from page 11

situation was always more economical than broadcast when no miss costs were added. As algorithm and miss costs were added, herbicide prices needed to be above \$5.00 and \$14.00, respectively for the spot sprays to be more economical than the broadcast application.

Continued development of nozzles specifically for spot spraying, as well as better boom leveling, will improve spot spray economics because the smaller width and length of an applied band that stable booms allow will increase savings. As these take hold, they will tilt the calculations in favor of the spot sprays.

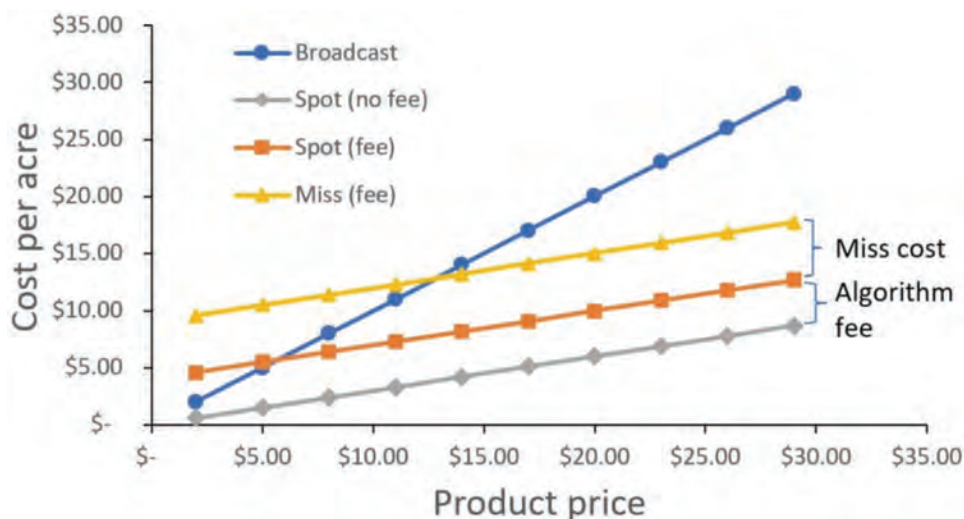


Figure 1: Spot spray costs as a function of herbicide prices, assuming a 20% spot spray use rate, with \$4.00 algorithm fee or \$5.00 miss cost added.

This exercise is not intended to declare winners and losers. Its purpose is simply to initiate a discussion about the overall cost of various approaches. What if owners of spot sprayers make, on average, more passes over the field? What would the value of a lighter, cheaper sprayer be on their bottom line? With less expensive sprayers, the fixed cost of a spray, or a re-spray would drop. Is there a benefit from reduced soil compaction? What if the use of more complex tank mixes, necessitated by resistance, jeopardizes crop safety? The benefit of spot sprays would increase.

I've often repeated that the savings created by spot sprays ought to be re-invested in herbicide tank mixes, with a goal to prolong the utility of herbicides before resistance develops. This could ultimately create the biggest long-term return on investment because once herbicides are no longer effective, alternative strategies will be needed.

I'm as hopeful as anyone else that agriculture can retain the

benefits of effective and safe herbicides for a long time to come. But it will only take one weed on a farm to become resistant to all available herbicides for major change to be necessary. The more time we have to develop these alternatives, the better. Spot sprays are definitely a part of that strategy. ■

ABOUT TOM WOLF (NOZZLE_GUY)

Tom Wolf is based in Saskatoon, SK and has 33 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.



Draft Herbicide Strategy Framework

To Reduce Exposure of Federally Listed Endangered and Threatened Species and Designated Critical Habitats from the Use of Conventional Agricultural Herbicides

EPA currently has out for public comment a proposal (the herbicide strategy) – the full document can be read here: <https://www.regulations.gov/docket/EPA-HQ-OPP-2023-0365/document>. The herbicide strategy is developed to require agricultural herbicide users adopt greater use restrictions aimed at reducing runoff/erosion and spray drift risks to endangered species. Comments on this proposal are due October 22. While this proposal would impact most agricultural herbicide users across the lower 48 states, producers in four pesticide use limitation areas (PULA) established by the proposal could be subject to greater restrictions. (see PULA map here: https://drive.google.com/file/d/1hfi2Jt7h5tzpqzdL3Eub-T1rNAqB9K_Dc/view?pli=1)

This proposal is significant and can greatly impact herbicide use across Montana and the United States. It is critical that herbicide users, applicators, distributors and others impacted by this proposal engage in the public comment opportunity.

Concerningly, these restrictions could be very costly or entirely unworkable for many producers. Examples include:

- Requiring herbicide users to attain "points" by adopting certain runoff reduction practices (reduced tillage, cover crops, vegetative filter strips, contour farming, etc.) to use most herbicides (most herbicides could require 6, 9, or more points to use);

- Downwind spray drift buffers as great as 500 feet for aerial application or 200 feet for ground application (these distances could be reduced by using coarser spray droplets or other mitigations);
- Runoff mitigation exemptions can apply for applications more than 1,000 feet from terrestrial or aquatic "habitat" ("habitat" definitions are very broad and few areas are likely to qualify for this exemption) or if you are under a field/site specific runoff conservation plan;
- If you have subsurface drainage, you cannot comply with runoff reduction practice requirements. All subsurface drainage must be channeled into retention ponds or saturation buffer zones.

The American Soybean Association is spearheading a campaign to sign on to a letter of concern. The letter is written as general as possible to make it applicable to as many producers/growers/applicators as possible. The sign on link is provided here or you can access the link through the MABA Newsworthy Notes. https://docs.google.com/forms/d/e/1FAIpQLScX-i6QjrkiZJak4vDUdUUfVYEI7VUDj3P4xXD5W-cH0civu_bQ/viewform?pli=1

If you have grower/producer/applicator members you would like to circulate this to for sign-on, feel free to share the sign-on link with them where they can sign on. The deadline to sign on is October 20. ■



Montana State Research Expenditures Top \$200 Million for First Time

Marshall Swearingen, MSU News Service



MSU graduate student Sheikh Parvez tests a device designed to stimulate and control two-dimensional quantum materials with radio frequency excitations on March 29, 2022. MSU Photo by Adrian Sanchez-Gonzalez

For a fourth straight year, Montana State University recorded an all-time high for research expenditures, which support scientific discovery, rural outreach and a variety of scholastic pursuits, as well as providing hands-on opportunities for students to engage in science and creative activities that build skills for careers after they earn their degrees.

MSU reported to the National Science Foundation that research activities accounted for roughly \$201 million during the fiscal year that ended in June. That figure marks a 4% increase over last year's total and the first time in Montana history that such expenditures at an institution of higher education have topped \$200 million.

"The vast majority of these dollars come from the federal government and are won through incredibly competitive granting processes," said Alison Harmon, MSU's vice president for research and economic development. "This record is a credit to the work ethic, competitiveness and high caliber of our faculty."

Exceeding \$200 million in research expenditures

is a metric set in MSU's strategic plan, "Choosing Promise," as part of the university's goal of achieving the highest standards of research and creative outcomes. The plan calls for reaching that metric by 2024, meaning MSU has met the goal two years ahead of schedule.

"Research and creative activity makes a difference for the health and well-being of Montana's people, our environment, food and fuel security, and our state's growing industries," Harmon said. "Research dollars help Montana State fulfill its land-grant mission by supporting the learning experience of students at all levels, providing resources for community engagement and allowing our faculty to reach their full potential in scholarship."

Among MSU's academic colleges, the College of Agriculture recorded the largest figure at \$49 million, followed by the Norm Asbjornson College of Engineering at \$22 million and the College of Letters and Science at \$20 million. The Mark and Robyn Jones College of Nursing had a total of \$15 million in expenditures, while the College of Education, Health and Human Development had \$5 million.

The expenditures in 2021-2022 directly supported 755 undergraduates, providing funding through programs like MSU's Undergraduate Scholars Program for students to work on research projects. The funds also supported 618 graduate students, up from 540 last year. A total of 478 faculty and professional staff served as principal investigators or co-investigators on grant projects.

Funding from federal agencies including the departments of Defense and Agriculture, NSF and NASA accounted for 89% of this year's spending, with roughly 8% coming from private sources and the remainder coming from the state. During the fiscal year MSU researchers were awarded 689 new grants



or contracts totaling \$157 million, a 30% increase from last year. That funding will support research as it is spent over coming years.

MSU is one of only 146 institutions in the U.S. to receive an R1 designation for its very high research activity by the Carnegie Classification of Institutions of Higher Education, and among those, MSU and Utah State University are the only two that also have an enrollment profile of “very high undergraduate.” MSU has also been named among the top universities in the world for its scientific impact and collaboration, ranking 163 out of the top 202 in the U.S. recognized for the largest contributions to international scientific journals by the CWTS Leiden Ranking.

“Our faculty and researchers continue to show why MSU is one of the top research institutions in the country,” said Bob Mokwa, MSU provost. “Their proposals get funded because Montana State is conducting impactful research that will ultimately improve lives in Montana and beyond, and their eagerness to involve our students and provide them the experience of being on the cutting edge is inspiring.”

Scholarship highlights from the past year include:

- Researchers from MSU’s College of Agriculture and Norm Asbjornson College of Engineering will collaborate with wheat producers around Montana to collect and analyze data as part of a 15-state precision agriculture project backed by a \$4 million USDA grant.
 - A project led by Anna Elliott, associate professor in MSU’s College of Education, Health and Human Development, aims to make clinical mental health counseling services more accessible to small communities across Montana. The work is supported by a five-year, \$2.3 million U.S. Department of Education grant that MSU received in 2019.
 - Under a four-year, \$2.8 million grant from the U.S. Health Resources Services Administration, MSU’s Mark and Robyn Jones College
- of Nursing is addressing a rural nursing shortage by preparing nursing students for practice in community-based primary care settings and providing professional development opportunities to registered nurses.
 - Researchers in MSU’s Department of Chemical and Biological Engineering and Center for Biofilm Engineering are involved in three projects backed by \$6.4 million from the U.S. Department of Energy and the National Science Foundation to fine-tune algae’s ability to convert sunlight and carbon dioxide into natural oils that can then be refined into vehicle fuels, plastics and more.
 - Backed by a recent \$3.4 million grant from U.S. Department of Energy, MSU researchers in the College of Letters and Science and College of Agriculture are investigating microorganisms that display the ability to extract important and useful metals from pyrite, an abundant mineral in the Earth’s crust.
 - MSU researchers in MSU’s Center for Research on Rural Education are working to strengthen K-12 rural schools across the state by strengthening undergraduate rural teacher preparation and supporting skills development for licensed rural teachers under a \$1.5 million grant MSU received in 2021.
 - In April, nine filmmakers affiliated with MSU’s School of Film and Photography in the College of Arts and Architecture were awarded more than \$375,000 in grants from the Montana Film Office to support their upcoming productions.
 - With a new \$1.7 million grant from the U.S. Department of Energy, engineering researcher Dilpreet Bajwa is leading a project to turn the pulp left over from processing sugar beets into a specialized material for improving how heat is captured and recycled in a variety of industrial settings.

MSU Research continued on page 16



MSU Research continued from page 15

- In a project led by Becky Hammack in the College of Education, Health and Human Development, an interdisciplinary team of MSU researchers in collaboration with three tribal colleges in the state is working to attract and retain underrepresented populations to future bioscience careers with a \$1.1 million grant from the National Institutes of Health.
- As part of a renewed \$63 million partnership with one of the nation's top medical schools, MSU will play a leading role in improving medical care and public health across the Northwest through collaborative research.
- With a recent \$20 million NSF grant, MSU physics and engineering researchers are establishing the MonArk Quantum Foundry to pioneer ways of harnessing quantum mechanics to generate advances in secure communications and innovative computing.
- Two MSU professors in the Department of Mechanical and Industrial Engineering won the NSF's top award for early-career researchers, carrying funding of \$600,000 or more: Yaofa Li is exploring innovative techniques for cooling supercomputers, while Cecily Ryan is leading a project to advance 3D printing so it could incorporate biological and biodegradable components.
- A team of materials science researchers led by Chelsea Heveran and Lewis Cox is using a \$700,000 NSF grant to study bone cells called osteocytes with a goal of developing new treatments for bone weakness caused by aging.
- Jennifer Woodcock-Medicine Horse, instructor in the School of Art in MSU's College of Arts and Architecture, received a \$50,000 grant from the Association of Tribal Archives, Libraries, and Museums to create a multimedia website showcasing contemporary Native American art of the region.
- After participating in a variety of entrepreneurial support services and events in MSU's Jake Jobs College of Business and Entrepreneurship, a company founded by electrical and computer engineering professor Brock LaMeres was selected as a winner of NASA's Entrepreneurs Challenge. LaMeres's research team has received more than \$5 million in NASA funding over the years to develop a radiation-tolerant computing technology that will head to the moon for testing in 2024.
- A recent \$3 million grant from the NSF Research Traineeship program will support 21 doctoral students over five years as they study microbes known as extremophiles, which inhabit extreme environments and have important implications for industry.

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Photography graciously provided by Jared Unverzagt.
Find him on Twitter and Instagram to see more of his great work. @jzagt



2024 MONTANA AG-TECH INNOVATION & INVESTMENT SUMMIT



SCAN QR CODE TO REGISTER TODAY!

WHO:

The Montana Ag Technology Innovation and Investment Summit is a strategic opportunity to bring cutting-edge agriculture technology and innovation to the forefront of North America's agriculture economy. The summit is brought to you by the Montana Agricultural Business Association Foundation.

WHAT:

The Montana Ag Technology Innovation and Investment Summit explores the nexus between research, innovation, and investment opportunities through a compelling sector that has the power to alter the course of the global food and agriculture system. Join researchers, entrepreneurs, capital allocators, fund managers, and agribusiness executives to network, collaborate, discover, raise capital, negotiate deals, and lean into developing the Ag Technology and Innovation ecosystem. The full-day agenda ends with a speed-pitch competition that recognizes, assists, and contributes prize money to the winners!

WHERE:

The Great Falls International Airport Conference Center. Great Falls is known as Montana's Basecamp. A short drive in any direction leads you to some of the most iconic destinations in North America. Great Falls is home to one of the most innovative Agri-Tech Parks in the country. Connecting businesses to a faster speed to market, lower production costs, and foreign trade zone benefits.

WHEN:

January 23, 2024

DISCOVER YOUR CORPORATE SPONSORSHIP OPPORTUNITIES

Collaborate and curate an opportunity to position your company and its innovation team members to grow visibility and be a part of growing and accelerating agriculture's portfolio in Montana and beyond.

The sponsorship categories are \$25K, \$10K, \$5K, and \$1K. Exhibit space is available near networking to display branding and collateral materials highlighting your company's strategic focus. All corporate sponsors receive widespread recognition on both print and digital media platforms.

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MONTANA DEPARTMENT OF **AGRICULTURE**

NEW CERTIFICATION & TRAINING PLAN; ADMINISTRATIVE RULE REVISIONS PLANNED:

The Montana Department of Agriculture (MDA) has a new Certification and Training (C&T) Plan, approved by EPA which marks the first major update since 1973. This was required by changes at the Federal level to applicator standards. Most states and several federal agencies are also in the process of C&T plan revisions. In Montana's case, this will require some changes to our administrative rules, particularly those concerning training and certification of pesticide applicators, both commercial and private. MDA and MSU Extension pesticide education programs will be engaging with our stakeholders in coming months and implementing changes in our programs over the next few years to reflect the 2023 C&T plan. One of the changes required by federal regulations will limit the use of Restricted Use Pesticides to applicators 18 years or older with an exception for farm family members (who must be at least 16). Additionally, there will be an update of a new category - Non-Soil Fumigation, to our classification options for both the commercial and private programs. MDA will be reaching out to you and other stakeholders at trainings and meetings as we continue our C&T plan implementation in coming months and years.

MDA TRAINING UPDATE:

As we close in on applicator license renewal season, private applicators in District 1 (Flathead, Lake, Lincoln, Mineral, Missoula, Ravalli, and Sanders Counties) should have received renewal notices via email on September 25th. Commercial applicators

and dealers should have received renewal notices via email on October 16th. Renewals for private, commercial, government and non-commercial applicators and dealers will be sent out on November 15th via mail and email. Applicators seeking to check their recertification credit standing can follow the link listed below to access credit information by entering their name and clicking "Search," which will show their active license(s). Clicking on the link under "Program Type" will provide a list of categories and credits needed, as well as the expiration date of each category.

Our MDA Training team was out across the state in October for our Fall recertification program. While those in-person offerings have past for this year, we are offering recertification credits through our MDA Fall Webinar Series. Frankie Crutcher from the Eastern Ag Research Center will be presenting on seed treatment in fungicide efficacy, selecting a fungicide seed treatment, proper seed application, and preventing pesticide resistance on December 13th at noon. Mark Sheperdigian, technical advisor at Rose Pest Control, will be giving a talk on structural pest control methods on December 6th at noon. There will also be two additional opportunities with the details TBA. Registration for webinars will open the first week in November; look for the course announcement at <https://agr.mt.gov/Pesticide-Training-Recertification-Program>.

For all recertification trainings offered for credit in Montana, whether they are in-person, live webinars or online courses available whenever you are, you can use our course locator at <https://mtplants.mt.gov/PesticideApplicator/MeetingSearch.aspx>.



BULLETINS LIVE! TWO (BL2)

Endangered Species Protection Bulletins are a part of EPA's Endangered Species Protection Program. Bulletins set forth geographically specific pesticide use limitations for the protection of threatened and endangered (listed) species and their designated critical habitat. Pesticide products with potential to harm listed species will have label statements requiring users to consult the BL2 webpage (linked below). You must follow the pesticide use limitation(s) found on both your label and in the BL2 bulletin for your intended application area, pesticide product, and application month. You may not see any geographically specific use limitations for the product you are applying, even if your label directed you to the website. In some cases, EPA has not yet completed the process of identifying whether additional geographically specific use limitations are needed; or there are no additional geographically specific use limitations required for the specific time period and location you plan to apply the pesticide. In fact, if your pesticide label directs you to this website, even if there is no restriction for the time and area in which you will be applying, you should document that you complied with that label direction by saving or printing the bulletin.

Currently, Montana has BL2 restrictions for rodenticides in some areas but in other parts of the US, other pesticide types have bulletins. EPA continues to complete Endangered Species Act consultations and update the Bulletins Live! systems with additional

geographically specific use limitations that may be applicable to your pesticide product in the future. Therefore, before you apply a pesticide with BL2 requirements on the label, check to see if new or additional directions for the product have been added to BL2. It's important to note, you have a six-month window to obtain a bulletin before you apply a pesticide (e.g., you can obtain a bulletin January 1-July 1 if you plan to apply the pesticide on July 1). EPA has been clear they are increasing steps taken to protect listed species, in part due to recent court decisions that their process has not been sufficient in the past. We can expect the BL2 system to be used more and thus more pesticide labels, including insecticides and herbicides, will require users to consult the BL2 site. The restrictions listed in BL2 bulletins help allow use of products at times when, or in areas where they have less potential to harm listed species, rather than losing use of an active ingredient entirely. As always, read and follow the product label, including BL2 requirements: doing so protects you and your family, the environment, and the much-needed pest control tools in our toolbox. ■



September's Pesticide Waste Collection Event in Helena, Montana



Congressional Comments



Jon Tester

*United States Senator
For the State of
Montana*

U.S. SENATOR JON TESTER

Montana's producers grow the best food in the world, and that's a fact.

With the help of Montana agribusinesses, our farmers and ranchers produce the highest quality crops, and together we feed the world.

That's why last month I introduced my bipartisan American Farmers Feed the World Act, a bill to ensure that American-grown food is prioritized in food aid shipments around the world.

The Food for Peace program does great things to help create food security across the world, but for too long we've prioritized the purchasing of foreign food for developing nations. My bipartisan bill takes a more balanced, accountable approach and ensures that American farmers continue to have a leading role in feeding the world.

As the leader of the free world, it's our job to lead from the front. By purchasing and donating American food for the Food for Peace program, we'll fortify our alliances across the world and help to beat global hunger in the process.

With the help of my colleagues on the other side of the aisle, I'm looking forward to getting this legislation across the finish line and ensuring that our ag economy continues to grow.

It's my honor to represent you in the United States Senate, and if I can ever be of help, please know that my door is always open.

U.S. SENATOR STEVE DAINES

Beware of Grizzly Bears and Big Government

Fall in Montana means hunting season is in full swing. As Montanans across the state are putting in long days in the backcountry to fill their respective tags, being bear-aware is critical. It's no secret, the grizzly bear has made a full and robust comeback in our state. Whether you or someone you know has had a close encounter with these apex predators, you know the outcome can be dangerous for all involved. I am hopeful the U.S. Fish and Wildlife Service will follow the science and remove the grizzly bear in Montana from the list of endangered wildlife upon completion of their comprehensive 12-month status review. I will continue to urge the Fish and Wildlife Service to meet the 12-month

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deadline of February 2024. The grizzlies' recovery should be celebrated and management returned to the state to better ensure conservation of the species and most importantly, the safety of Montanans.

We know that hunting in Montana is made possible through the ethical lessons and skills learned in hunter and bowhunter education classes. Montana's public lands and wildlife deserve the utmost respect, so ensuring future sportsmen and women commit themselves to safety and conservation is key. Hunting and archery programs have been under recent attack by the Biden administration, so I was proud to help introduce the "Allowing for Recreational Resources for Outdoor Wellness Act" to ensure hunter and bowhunter education programs will not lose critical funding. I am glad to see President Biden come to his senses and reverse course on his radical stance that would threaten Montana's hunting heritage. Hunting, shooting sports and harvesting wild game is an integral piece of our Montana way of life, and I will stand up to anyone who threatens to get in the way.

When it comes to the Biden administration's disastrous "Waters of the United States (WOTUS)" regulation, I am disappointed that the Environmental Protection Agency missed the mark with their required revision rather than fully rolling back the onerous regulation. The revised definition of WOTUS is ambiguous at best and fails to respect landowners' private property rights. This amended rule comes after the Supreme Court's unanimous decision to stand with landowners and reign in federal overreach. I will continue to challenge the oppressive regulatory agenda being pushed by this administration and use my voice to advocate for farmers, ranchers and landowners.

Despite the countless attempts by DC bureaucrats to gain widespread control and insert their opinions on hardworking Montanans, folks here in the Treasure State are resilient and continue to press on. I will keep fighting back against big government to ensure our children and grandchildren enjoy the same liberties we're constitutionally afforded. ■



Steve Daines

*United States Senator
For the State of
Montana*



Points to Ponder

THE GREAT RESET



James Baguley
Board Member
Montana Agricultural
Business Association

Times in the crop protection industry sure have changed. Covid and its aftershocks have caused permanent (seemingly) changes to the trucking and suppliers logistics capacity. Interest rates skyrocketing to combat inflation show no signs of abating. Producers, and retailers are left scrambling to adjust. Take a moment to cogitate what the new normal means for our membership.

Pre-covid, crop protection channel (retail and distribution) inventories averaged 35% of prior year sales. The paradigm enabled members to maintain a “safety stock” of inventory. Enabled by low interest rates, tying up free cash with product inventory kept product in the channel. Highly confident in manufacturing and distribution, retail members got accustomed to “just-in-time” ordering and delivery. Manufacturer line times for products were pushed from months, to just weeks before products were needed in the field. The hubris would come to end.

Covid hit.

The safety stock we saw accumulate, kept us afloat that first year. Once channel inventories depleted the supply chain began to crumble, panic buying set in. With rock bottom interest rates, PPP loans and free money, if you had product to sell people came running. Channel inventories skyrocketed to 50% or pre-covid levels. Would it be enough to get us through?

No. No it would not.

The just in time model failed. Manufacturer facilities were plagued by delays in imports. Packaging materials became worth their weight in gold. Manufacturers could no longer meet the needs of the channel. Distribution partners became mired in logistical issues, drivers and trucks as rare as hen’s teeth. Pricing increases transitioned from yearly to monthly. Crop protection product choices were limited to what could be found, not always meeting the wants of the producers the industry serves. While confidence was shattered and inflation was gearing up for lightspeed, uncertainty filled our memberships mind space.

Fast forward to current era. The aftershocks of covid are not done. Manufacturers became reliant on more than just China for packaging materials-often splitting their suppliers between continents for like materials. Production would split by quarters. COGS are finally coming down for some products and remaining high for others. Interest rates continue to rise. Increased cost of money is driving channel inventories to historic

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lows-less than 25%. We are still seeing heavy demand on the trucking industry, causing delays in delivery. We are entering the new “normal.” Demand planning, forecasting and purchasing decisions are being vetted more thoroughly than before. The goal of the channel today is to reduce inventory. A continued challenge for manufacturers will be the production of a consistent supply: a supply that will give confidence a needed boost. Pending any environmental disasters, we will see if we can operate successfully with these constraints. ■

Chamber AgTech Tour

The Montana Agricultural Business Association (MABA) coordinated an agriculture innovation tour during the Headwaters Tech Hub Leadership Summit on September 26th-28th. MABA, the Montana Chamber of Commerce, and key partners from the Montana Department of Commerce and the Montana University System brought together more than forty Montana leaders for three days of networking, relationship building, and strategy around anticipating a federal rural technology hub designation, centered on Montana's cutting edge optics, photonics, and autonomous systems technology development and in particular, demonstrating how these technologies coupled with water, sensors, mining, and agriculture contribute to the national security of the United States.

During the agriculture innovation portion of the tour in Manhattan and Bozeman, tour participants heard about the ongoing supply and demand challenges with water in the Gallatin Valley from the Farmers Canal Company. Tour stops also included a precision agriculture and drone demonstration at the Montana State University Post Farm Agriculture Experiment Station. Gallatin Grown Farm showcased seed potato production, sensor technology, and Valley Irrigation, which demonstrated the latest center pivot irrigation technology—the day ended on the MSU campus in the Norm Asbjornson Hall, which houses the engineering and honors colleges. There, tour participants learned about the latest applications in virtual livestock fencing and discussed the next steps along the journey of applying the Headwaters Tech Hub designation to accelerate agriculture technology advancements in Montana and beyond to ensure indefinite water and food security.

The leadership summit will continue during the Montana Chamber of Commerce's Business Days at the Capitol in January. Following that, more information will be announced at the Montana Agriculture Innovation and Investment Summit at www.mtagtechinvest.io in Great Falls on January 23rd. ■

Washington, D.C. Report

On October 16th, four members of the MABA Board of Directors as well Executive Director Krista Evans traveled to Washington D.C. to meet with industry partners and speak with Montana’s Congressional delegation. We were also fortunate to team up with the Nebraska Ag Business board party and share many ideas and concerns that effect both groups. It was a fast and furious three days, with many meetings and experiences crammed into a small block of time.

Bright and early on Tuesday morning we hurried off to office space of Crop Life, Agricultural Retailers Association, CPDA, and TFI. We spent the morning hearing from each one of these national partners about what they are doing to represent us in Washington D.C. The two main areas of concern we left the meetings with were the expiration of the Farm Bill, and the EPA’s proposed Herbicide Strategy (still being developed). We also had to chance to impress upon them concerns that are more pressing to Montana and our organizations membership, i.e., Phosphate supply and pricing due to tariffs on imported material.

From those meetings we traveled to the EPA’s office building. We were fortunate to have a meeting with Rod Snyder, Agricultural Advisor. Mr. Snyder leads the team within the EPA the oversees everything related to Agricultural. It was important for us to get this meeting with him, because of the proposed Herbicide Strategy, and express our concerns over how it could fundamentally impact our industry. The Herbicide Strategy is the first of many proposals that EPA agreed to develop due to the settlement of a “mega lawsuit”, of which the EPA was a defen-

dant against several Non-Governmental Organizations. I believe we all felt encouraged about the progress of the strategy as well as the EPA’s commitment to work with the industry to make adoption as smooth as possible. There are mountains of work to be completed and lots of details to be addressed before completion. I would encourage each of you to research this topic, as it may have profound effects on the entire industry, contact your MABA board with concerns you have and even reach out to Congressional members to get your concerns noted.

Wednesday was all about being on Capitol Hill. We attended Montana Coffee, where we had the chance to meet our Montana



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Congressional Delegation. Montana was the first state to have such a meeting and judging by the signs throughout the Senate office building, it is very successful as many other states have copied the plan.

After “Coffee” we had individual meetings with both Senators and both Representatives. We took this time to again bring forth items of concern for our membership. Including phosphate pricing and tariffs, 2023 Farm Bill, EPA’s Herbicide Strategy, hours of service, recent changes to obtaining a CDL, and getting fertilizer materials placed on the Critical Elements list. We were very well received from each office and left feeling that we had been heard and our concerns were the Delegations concerns now.

As always when in Washington D.C. there is always something taking place on Capitol Hill, just not always what you would expect. Two such events took place while we were on the Hill, that Wednesday. First, was the vote for Speaker of the House. We were fortunate to obtain gallery tickets from Representative Zinke’s office and were in attendance as the vote took place. Although a Speaker wasn’t elected, being in attendance for such a major vote was very exciting. Secondly, while walking to our meeting with Representative Rosendale we were able to witness a large protest taking place outside the office buildings for the House. I’m sure many of you saw the news coverage of the protest but being a few feet away from such an event was something I will always remember.

The October Fly-in to D.C. was a very positive and constructive time for Montana Agricultural Business Association. We were able to meet with very influential members of Congress and get our concerns heard. Meet with the EPA to address concerns we have with the impending Herbicide Strategy and meet with national partners to get our issues put on a national scene. I am looking forward to the 2024 Fly-in and continuing to advance Montana’s Ag agenda. ■





Hazard Communication Safety Data Sheets

The Hazard Communication Standard (HCS) requires chemical manufacturers, distributors, or importers to provide Safety Data Sheets (SDSs) (formerly known as Material Safety Data Sheets or MSDSs) to communicate the hazards of hazardous chemical products. The HCS requires new SDSs to be in a uniform format, and include the section numbers, the headings, and associated information under the headings below:

Section 1, Identification includes product identifier; manufacturer or distributor name, address, phone number; emergency phone number; recommended use; restrictions on use.

Section 2, Hazard(s) identification includes all hazards regarding the chemical; required label elements.

Section 3, Composition/information on ingredients includes information on chemical ingredients; trade secret claims.

Section 4, First-aid measures includes important symptoms/effects, acute, delayed; required treatment.

Section 5, Fire-fighting measures lists suitable extinguishing techniques, equipment; chemical hazards from fire.

Section 6, Accidental release measures lists emergency procedures; protective equipment; proper methods of containment and cleanup.

Section 7, Handling and storage lists precautions for safe handling and storage, including incompatibilities.

(Continued on other side)

For more information:



OSHA Occupational Safety and Health Administration
www.osha.gov (800) 321-OSHA (6742)

OSHA 3493-01R 2016

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Hazard Communication Safety Data Sheets

Section 8, Exposure controls/personal protection lists OSHA's Permissible Exposure Limits (PELs); ACGIH Threshold Limit Values (TLVs); and any other exposure limit used or recommended by the chemical manufacturer, importer, or employer preparing the SDS where available as well as appropriate engineering controls; personal protective equipment (PPE).

Section 9, Physical and chemical properties lists the chemical's characteristics.

Section 10, Stability and reactivity lists chemical stability and possibility of hazardous reactions.

Section 11, Toxicological information includes routes of exposure; related symptoms, acute and chronic effects; numerical measures of toxicity.

Section 12, Ecological information*

Section 13, Disposal considerations*

Section 14, Transport information*

Section 15, Regulatory information*

Section 16, Other information, includes the date of preparation or last revision.

*Note: Since other Agencies regulate this information, OSHA will not be enforcing Sections 12 through 15 (29 CFR 1910.1200(g)(2)).

Employers must ensure that SDSs are readily accessible to employees.

See Appendix D of 29 CFR 1910.1200 for a detailed description of SDS contents.

For more information:



OSHA® Occupational Safety and Health Administration
www.osha.gov (800) 321-OSHA (6742)

Become a MABA Member



Tim Tackes

*Board Member
Montana Agricultural
Business Association*

I have been a member of the Montana Ag Business Association for nearly all of my 30 year long ag business career in Montana. I have seen first-hand the many different benefits of belonging to MABA though all aspects of my career as an applicator, crop advisor, ag retail manager, wholesale territory rep and chemical manufacture area rep. I am currently serving my second term on the MABA board of directors. Prior to being elected, I ran for the board 4 different times throughout my career. I did not get discouraged to run again often because I felt the desire to do more to protect and promote our industry. Board members need to want to be on the

board to make a difference in the industry in which they work, not just as an item on a resume or an opportunity for a social outing. Many of you only associate MABA with the annual January convention and a way to pick up CCA or state pesticide license credits, but MABA offers our ag business members and our industry so many more benefits. Financial support to FFA and 4-H, recruitment of graduates entering the workforce to stay and work in Montana, promoting ag businesses in a positive light to our many state residents removed from the ag industry, promoting the ag entrepreneurial spirit and development of new ag technology through the Tech Summit, protecting our ag businesses through local, state and national lobbying for pro-ag business laws and legislation are just a few examples of what MABA does. I have spent the last 13 years of my career working first as a wholesale fertilizer sales rep and more recent as a technical sales manager for an adjuvant manufacturing company, covering the states of MT, ID, WA and OR. I have seen firsthand many different issues that affect ag business varying by state. I am also a member of other state and national ag business associations like Far West (ag business association for WA, ID & OR), ARA (Ag Retailers Association of America), and CPDA (Council of Producers & Distributors of Agrotechnology – a advocate for adjuvant, inert ingredient and post patent pesticide manufactures). These ag business associations are critical for the long-term viability of our industry. I am currently an active member of the CPDA regulatory committee representing the northwest. I have experienced firsthand the absurd regulation that states like Washington and Oregon have and

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continues to try to enact to restrict/ eliminate many of the tools our farmers need to economically produce their crops. What happens in our neighboring states could soon happen in Montana and we need a strong MABA board of directors to fight and retain our current way of work life. Some of these associations have lost their focus on driving value for their members, in turn lose membership & support and are in jeopardy of disappearing from the industry which is not good! MABA remains a strong organization doing good things for ag business in Montana. I wanted to serve on the board of directors to help do my part and insure it stays a strong, member focused, association. I have been your MABA representative for the past three years, traveling to Washington DC to meet with national ag business groups and our Montana congressional delegation. These meetings bring forth the concerns and issues of our state ag business industry and allow a broader collective approach to defend our businesses and the role we all play in agriculture. ***I encourage you to consider volunteering time as a future board member and to also talk to your friends and associates working in this industry who aren't already members, to become a member of MABA.***

The value of MABA membership includes but not limited to: *You need a watchdog advocate for ag business issues live, *A seat at the table representing our/your views, *The power of a collective voice and anonymity, *Collaboration & networking with other industry organizations, *State agency interaction and possibly intervention.

If you are interested in becoming more involved with MABA or running for a future board member position, please contact me! ■

Become a Certified Crop Advisor



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2023 MABA Great Montana Golf Rally Results

Our third annual golf tournament was held on July 27th at Hickory Swing Golf Course in Great Falls, with a Calcutta the night before with a great turn out. We teamed up with MABF again this year to raise money for scholarships and to benefit Clint Volbrecht. Sadly, Clint passed away before our tournament, but we are happy his family received a donation in his name from MABF. We would like to say Thank you to everyone who supported our golf event this year. We had a great turn out and fantastic time. We had lots of compliments about the tournament, especially the quicker pace of play. If you have any suggestions, ideas, or if you'd like to volunteer for our board or next golf tournament, please reach out to us and let us know. I hope everyone has a great rest of their year and happy holidays. Congratulations to all our winners. ■



Flight 1 – First Place

BASF – Team Members:

Josh Reimers, Jeff Jerome, Andy Fillmore, Paul Trethewy



Flight 1 – Second Place

Helena Handbasket – Team Members:

Jeff Rearden, Grant Davison, Willie Krueger, Gary DeFrance



Flight 1 – Third Place

AgWest Farm Credit – Team Members:

Tyson Reese, Bill Hammerness, Nikki Kerkes, Sarah Wheeler





Flight 2 – First Place

Nutrien – Team Members:
 Jake Yates, Jeff Jedlicka, Scott Gordon



Flight 2 – Second Place

CHS Agronomy – Team Members:
 Patrick Nelson, Kyle Rollness, Charley Hawbaker,
 Seth Nelson



Flight 2 – Third Place (Tie)

Helena's Heroes – Team Members:
 Burl Brawley, Dan Brattain, Randon Vukasin,
 Bailey Brawley



Flight 2 – Third Place (Tie)

Northern Ag Network – Team Members:
 Augie Aga, Amelia Siroky, Alison Vergeront



MABA Board of Directors



cpda BECAUSE ADVOCACY MATTERS

NEWS & NOTES

Protecting Species:

ADJUVANTS TO THE RESCUE

Scott Rawlins, CPDA Director of Government Affairs

Fifty years ago, President Nixon signed the Endangered Species Act (ESA) into law. The ESA is often called the “pit bull” of environmental law because of the broad authority and power it grants to regulatory agencies responsible for administering the Act.

The modern-day Federal Insecticide, Fungicide and Rodenticide Act (FIFRA) was passed in 1972 – one year earlier than ESA passage. Congress established FIFRA and the accompanying Federal Food, Drug and Cosmetic Act (FFDCA) as the sole federal statutes for regulating pesticides. However, that’s not how non-governmental organizations (NGOs) saw it.

In 2001, ESA and FIFRA began to collide. That’s when NGOs used the much more expansive authority under the ESA to file suit against the Environmental Protection Agency (EPA) for its failure to “consult” with the National Marine Fisheries Service (NMFS) regarding the possible effects of fifty-eight different pesticides on endangered salmon and trout in California, Idaho, Oregon, and Washington. One of the key provisions of the ESA is the requirement that all federal agencies “consult” with either NMFS or FWS (collectively, “the Services”) if an agency action could affect threatened and endangered species.

That’s a problem because EPA and the Services have dramatically different views on how to assess and manage potential risks to fish, wildlife, and plant species from the use of pesticides. That’s because there are fundamental legal and science policy differences related to their respective obligations under ESA and FIFRA. The result has been an inability to develop a workable process for consultation under ESA. This conflict is now threatening agricultural productivity and global competitiveness while providing no corresponding benefit to threatened and endangered species.

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Fast forward to today and after 20 years of legal wrangling following the filing of the first lawsuit and the filing of numerous “copycat” lawsuits, we are now at a point where ESA restrictions will appear on some FIFRA labels.

To drive home that point, two major ESA/FIFRA developments have occurred in the past few days. The first is the announcement of a settlement in the ESA “mega-suit.” This lawsuit was filed by NGOs in 2011 which sought to invalidate or severely restrict EPA’s registration of any pesticide containing one of 382 active ingredients because of EPA’s failure to consult with the Services. The settlement agreement narrowed the case to challenge a subset of products containing one or more of thirty-five active ingredients.

The second is the release by EPA on July 24 of its draft “Herbicide Strategy,” which EPA describes as “a major milestone in the Agency’s work to protect federally endangered and threatened (listed) species from conventional agricultural herbicides.” The Strategy outlines proposed mitigations “for more than 900 listed species and designated critical habitats to reduce potential impacts from the agricultural use of these herbicides while helping to ensure the continued availability of these important pesticide tools.”

This leaves agriculture in a bad spot because pesticide registration and registration review are now regulated by a hybrid between FIFRA and ESA. To that point, before EPA registers any new conventional active ingredient, they must conduct an ESA assessment to determine potential effects to threatened or endangered species. If a product could cause “jeopardy or adverse modification,” EPA must add mitigation measures to the label before they can issue the registration. This new hybrid model also applies for products going through registration review.

This is where adjuvants enter the picture. There are a variety of potential mitigation measures designed to address new label restrictions. The goal is to reduce spray drift, surface water runoff, and pesticide transport through erosion by implementing “no-spray” buffers near species habitat.

For a pesticide with an ESA 150-foot no-spray buffer, a grower or applicator would have four options. First, select an alternative product that does not have a buffer. For some pests and situations, that might not be possible. Second, leave that portion of the field untreated. Third, do not plant or farm that part of the field. Fourth, add a drift reduction adjuvant tool to the mixture to either reduce or eliminate the buffer or to use another mitigation option, like a hooded sprayer.

To illustrate the potential effects to agriculture of these restrictions, pictured below is a map from the Iowa Department of Natural Resources that shows the Iowa species range for the Topeka Shiner – a small fish listed under the ESA. To be clear, not all these areas will face no-spray buffers. In fact, some areas will face little in the way of restrictions or

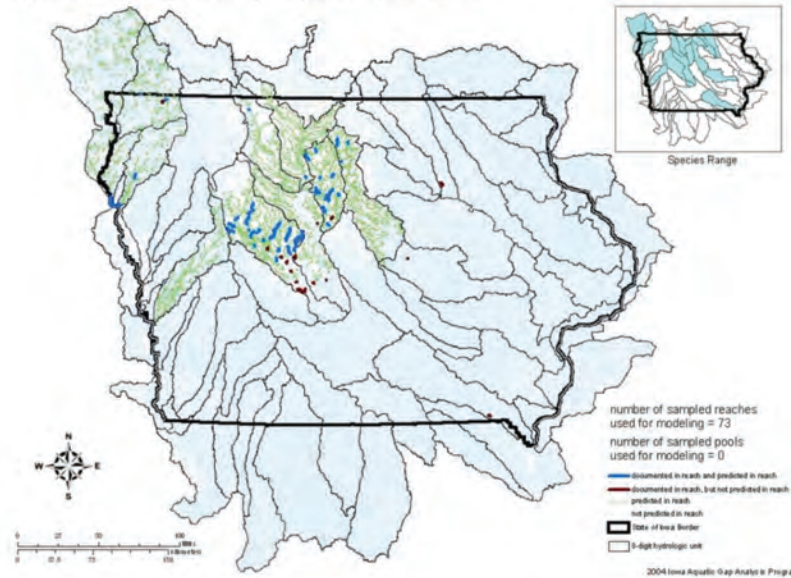
Protecting Species continued on page 36



Protecting Species continued from page 35

impact. However, farmland adjacent to streams, wetlands, rivers, and intermittent waterways that feed lakes and water bodies where the Topeka Shiner exist, could.

Predicted Distribution: *Notropis topeka* - topeka shiner



In this example, without the adjuvant option, the effects to agriculture and others who rely on crop protection products could be devastating, especially for growers who are farming small acre fields near protected waterways and species habitat. For example, a 10-acre field with a no-spray buffer could mean the loss of half the field or more unless the grower uses an adjuvant. For other growers, the economic impact can't be ignored as a 10-acre no-spray buffer on a 100-acre field means a potential 10% drop in revenue.

To address this, CPDA is working with EPA and CropLife America on including adjuvant data into CLA's Mitigation Strategy Tool or MiST. CLA and Compliance Services International (CSI) developed MiST as a centralized location for pesticide mitigation resources, historic evaluations of mitigation practices, and best management practices designed to protect species. CPDA is collaborating with its member companies on compiling adjuvant drift reduction data so that it can be included in MiST and relied upon as an effective and economical mitigation tool. At this point, EPA has not included the adjuvant option in any of their mitigation solutions.

To leave no stone unturned, we are also working with Congress and USDA. Adjuvants are already a part of the USDA's Natural Resource Conservation Service's (NRCS) 595 Practice Standards as a means of reducing offsite movement. CPDA is working with USDA to make that a more prominent feature and benefit to make farmers, working with their local NRCS office, more aware of this option.

Separately, we are supporting Farm Bill provisions to re-energize USDA

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Centers of Excellence to prioritize and include an adjuvant component in its research and outreach, so growers have the latest benefit information on utilizing adjuvants in their precision agriculture activities.

An important point that is almost always overlooked is simply this. The use of pesticides and adjuvants benefits endangered and threatened species by conserving critical habitat. Conservation scientists rank habitat destruction and invasive species as the two most serious threats to endangered species. The use of pesticides and adjuvants protects endangered species in two ways. First, pesticides increase crop yields. This reduces the amount of land needed to produce food, enabling marginal lands to be kept out of production and freeing more land for conservation and to preserve critical habitat. Second, pesticides increase the diversity and quality of natural habitat through the control of non-native or invasive species that damage our waters, farms, and natural areas.

Pesticide application stewardship and training are a continued need within agriculture. Not only do adjuvants help growers make more efficacious and on-target applications, they are also a key piece of the ESA puzzle. ■

THE HEADWATERS LEADERSHIP SUMMIT (Water, Sensors, Mining, Agriculture)

September 27-29, 2023 – Billings, Columbus, Bozeman, White Sulphur Springs, Montana

The Montana Chamber of Commerce, with key partners from the Montana Department of Commerce and the Montana University System, plans a National Security Showcase and Water Innovation Tour on September 27-29, 2023. This event will exhibit the potential of a Regional Optics, Photonics, and Autonomous Systems Technology Hub to create opportunities for Montana and our rural region.

MABA's acceleration of the MT Ag Tech Innovation and Investment Summit seeks to participate as a strategic partner to secure Regional Technology and Innovation Hubs (Tech Hubs) in Montana.

MABA will help design and showcase the latest innovations and investment opportunities for water and production agriculture technologies. We see a chance to demonstrate how sensor technology can help better manage critical natural resources for crop yield and livestock production. Using technology to understand better water availability and management is essential to the future of U.S. national food security.

Successfully securing the Tech Hub designation in Montana is a milestone in MABA's efforts to build a dynamic agriculture technology, innovation, and investment ecosystem by funneling a robust pipeline of investable agriculture opportunities from our summit and into the Tech Hub infrastructure, thus, allowing broader flows of private capital to enter Montana and agriculture. ■



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