Organic Matters





Photo: Amaltheia Organic Dairy

Inside this issue:	
MOA & AERO Join Forces	1
COVID-19 in Rural Montana	2
MOA Policy Proposal Procedures	4
Resolutions Passed by MOA Membership	5
MOA Farm Tour and Acres USA National Soil Day	7
FSA SHIPP—Pilot Program	8
MOA Members attend Organic Seed Growers Conference	10
MT Centennial Farms & Ranches	11
Survey and Research Requests	13, 15
Sanfoin	16-17
Organic Inspections & COVID-19	23
MOA Membership Form	24
MOA Conference Announcement	28
A View from the MOA Chair	29
OAEC Update	31-34





Montana Food Providers Project: MOA & AERO Join Forces to Support Montana's Food System

Together, Montana Organic Association (MOA) and AERO are spearheading a partnership to raise funds, supplies, and awareness to address two needs:



- Many people in Montana need food now, which Montana producers across our state could provide.
- We need to accelerate efforts for building resilient, values-based regional food systems NOW.

The MONTANA FOOD PROVIDERS PROJECT set a specific short-term distribution goal to address the immediate crisis by getting Montana food products in the hands of the MontanaFood Bank Network (MFBN) and other organizations for distribution across the state. Past the crisis, we intend to build long-term infrastructure and means for thoroughly engaging communities to build resilient regional food systems across our state. Aside from credit card fees charged for online purchases, 100% of the funds raised will go to support our neighbors.

Learn more and see who has contributed and partnered with MFPP: https://aeromt.org/blog/2020/04/06/montana-food-providersproject/

Donate to the MONTANA FOOD PROVIDERS PROJECT: https://aeromt.org/montana-food-providers-project/

Covid-19 in Rural Montana

Alee Lockman, MPH
PhD Student in Health Policy, Harvard University

In recent weeks, life for many Montanans has changed dramatically due to the Covid-19 pandemic. It's easy to think that Montana's rural areas are protected against this virus – living and working miles apart is already a way of life for our state's farmers, ranchers, and other rural residents. But Covid-19 is no longer a primarily urban or international problem – it's moved quickly to rural states like Montana and our state's smallest, rural communities are uniquely at risk.

While Montana's largest counties are currently experiencing the greatest number of Covid-19 cases, many rural areas are seeing quick upticks in the number of people infected. Take Toole County, which has been among the hardest hit area in Montana, despite only having around 5,000 residents. As of mid-April, Toole County had the fifth-highest number of cases in the state and had lost three individuals to Covid-19 – more than any other county in Montana.

And the risk facing many rural Montana communities is not Covid-19 alone – it's the impact of a highly-infectious illness on top of the numerous other health and economic challenges those living in rural areas face every day. Montana's farming communities and rural counties are home to a larger percentage of elderly individuals, who are at greatest risk of severe complications from Covid-19 and most likely to need hospitalization. Rural Montanans also tend to have high rates of chronic illness, like high blood pressure, diabetes, and asthma—all which compound the risks associated with Covid-19.

Montana's rural hospitals are well-practiced in providing critical care with limited resources, but the demands of Covid-19 outbreaks in addition to existing challenges will push many hospitals and health centers to the brink. In addition, spe-

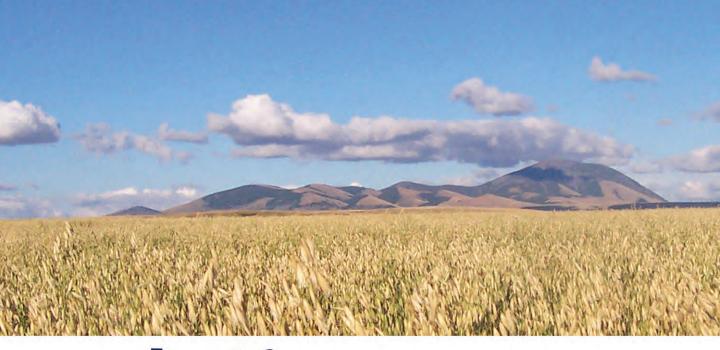
cialty health services are long distances away for many. More than 275,000 Montanans – nearly a quarter of whom are over the age 65 – reside in the 75% of Montana counties without ICU beds. For Montanans who require hospitalization due to Covid-19, the care they need may be hundreds of miles away – in hospitals that are already under resourced and caring for patients from large parts of the state.

It is encouraging that recent reports suggest that the social distancing practices Montanans have adopted are working. If the spread of Covid-19 continues to slow, Montana's hospitals will be able to meet demand for those in need of immediate care – for both Covid-19, as well as numerous other health conditions that already keep our health centers busy.

However, this doesn't mean that it's time to go back to business as usual. The benefits of social distancing only continue with the cooperation of all Montanans – whether in cities or in our smallest towns. Many individuals carrying Covid-19 won't show symptoms for several weeks – meaning that they could be unconsciously spreading the illness to anyone they come in contact with.

Montanans – especially our farm families— know the importance of being good neighbors and good stewards. And right now, the best way we can look out for our friends and communities is by doing exactly that— just from a distance.

Alee Lockman grew up on a wheat farm in Roosevelt County, Montana and attended school in Froid. She completed her undergraduate studies and Masters of Public Health (MPH) at Harvard University and is continuing her work there as a PhD student in Health Policy. Ms. Lockman served as US Senator Steve Daines Communications Director from 2012–2016.



Montana Gluten Free

Gluten Free from Farm to Fork



141 Andrea Drive Belgrade, MT 59714 406-600-7400 www.montanaglutenfree.com

MOA Policy Proposal Submission Process

As a trade association, part of MOA's mission is to lobby for issues relevant to organic. The MOA Policy Sub-Committee has been busy since the start of the year refining procedures, documenting passed resolutions, and publicizing its positions and processes.

Co-chaired by Doug Crabtree and Nate Powell-Palm. the committee has established guidelines for submitting policy proposals for consideration of adoption by the MOA membership at the annual meeting. In the recent past, the Policy Sub-Committee has strived to move proposals forward, only to learn that membership frequently did not have enough information to pass a resolution.

It is hoped that with 90-days lead time before the December meeting, MOA can provide sufficient background information for a given proposal so that the membership is well-informed about the issues put before the membership. The proposals will be published in October in the Organic Matters Fall Issue. Proposals must be submitted by September 6, 2020 via the MOA website.

To submit a proposal for consideration and o view the complete MOA Policy Procedures, visit the MOA website.

MOA Policy Page

Find resolutions passed by the MOA Membership on the following page.



www.goodfoodstore.com



Fact:

US ag crop variety loss in the last 100 yrs

Solution:

re-establish the community practice of selecting, saving and sharing seeds for common use by:

- · offering ecologically & organically grown open-pollinated seeds that grow well here
- · developing community seed stewards who build seed libraries and share seeds

Buy our seeds.

Save seeds from the plants you grow. Share your seeds & knowledge w/others.







RESOLUTIONS ADOPTED BY THE MONTANA ORGANIC ASSOCIATION

To date, the following resolutions have been passed by the MOA Membership at its annual meeting.

Resolution 1. Montana Organic Association supports the GMO liability for either the company that produces, develops or releases those organisms or livestock products. *Adopted February 6, 2005.*

Resolution 2. Montana Organic Association supports the establishment of organic acres at the Montana Research Centers. *Adopted February 6, 2005.*

Resolution 3. The Montana Organic Association urges the United States Department of Agriculture to provide funding to assist the Montana Department of Agriculture to become an ISO 65 accredited certifier. *Adopted February 6, 2005*.

Resolution 4. The Montana Organic Association supports the inclusion of mobile slaughter units in the definitions in the Montana Codes of licensed inspected slaughter establishments. *Adopted February 6, 2005.*

Resolution 5. The Montana Organic Association supports a preference for Montana grown or processed food for State-funded institutions. *Adopted February 6, 2005.*

Resolution 6. Whereas the Montana Wheat and Barley Committee has funded organic projects in Montana, the Montana Organic Association supports the voluntary check-off for organic wheat raised in Montana, and its continued support of organic research, projects, and education. *Adopted December 2, 2007.*

Resolution 7. MOA supports the position that seed patent holders to demonstrate that their GMO seeds contain mechanisms to prevent genetic drift or outcrossing as well as to prevent contamination of non-GMO crops in the food handling system before any new GMO crops are approved. *Adopted December 6, 2014.*

Resolution 8. MOA supports the current proposed farmer/consumer protection act which gives more power to the National Organic Program to control fraudulent imports of organic grains and other products. *Adopted December 9, 2017.*

Resolution 9. MOA supports organic research being funded closer to the percentage of organic food sold in the US. *Adopted December 9, 2017.*

Resolution 10. MOA supports the enactment of the proposed livestock rule. *Adopted December 9, 2017.*

Resolution 11. Montana Organic Association is a registered non-profit membership organization 501(c) 6 and does not discriminate in its employment, membership acceptance or board selection practices on the basis of race, sex, sexual orientation, gender identification, color, national origin, age, religion, marital status, political ideas, creed, or disabilities. *Adopted December 7, 2019.*







A good source of financing. And knowledge.

We provide more than money. From webinars to workshops, the team at Northwest Farm Credit Services readily shares knowledge and insights with our customer-members – a practice we believe is good for individuals and agriculture as a whole.

Learn more at northwestfcs.com/resources.

406.265.7878 | northwestfcs.com

Here to Help You Grow®

MOA Hosts Annual Farm Tour June 13, 2020, Aspen Island Ranch

2nd Annual National Soil Health Day Hosted by Acres U.S.A.

MOA has scheduled its annual farm tour for June 13, 2020 at Mark and Jane Smith's <u>Aspen Island Ranch</u> near Lavina, MT. Plans were made to host a public event; however, given the COVID-19 restrictions, however, the tour will likely not be an open event. The tour will be video-taped and available for viewing on the MOA and NCAT websites likely in late summer.

The tour will be led by Mark Smith and will include <u>Patrick Hatfield</u>. Professor and Department Head, Animal and Range Sciences at Montana State University, as well as Wes Henthorne, Board <u>Organic Advisory and Education Council</u> and <u>B Bar Ranch</u>.

Certified organic in 2007, the Aspen Island Ranch features native grassland and improved pasture. The Smith's raise certified grass-fed cattle and market their beef seasonally, direct to consumer and through Montana Harvest Natural Food Store in Billings. Aspen Island Ranch is a member of the Montana Organic Producers Coop (MOPC).

The tour is receiving funding and support in part from NCAT and WSARE. Please be in touch with MOA if you would like to host a tour. moamembership@gmail.com









GREELEY, CO. - Acres U.S.A. is proud to present National Soil Health Day on June 23rd, 2020. Acres U.S.A. started National Soil Health Day in 2019 after discovering the 2008 United States Senate bi-partisan resolution to celebrate soil health and soil health professionals led to little action and change. Acres U.S.A. is working to take this resolution to a local level and to foster positive action to protect our soil and education on the importance of sound soil management. Last year, on National Soil Health day more than 1.3 million people shared the message that soil health is of national importance.

In honor of National Soil Health Day, we are asking individuals, businesses, organizations and government officials to sign the resolution to pledge their support of soil health and soil health professionals. The full resolution and more background information on National Soil Health Day can be found here: www.acresusa.com/national-soil-health-day. Signees are encouraged to sign online.

Acres U.S.A. invites individuals, businesses, and organizations to join it for "The Dirt on Soil: What Does Soil Health Mean to You?" a video contest, whose winner will receive a free registration to any Acres U.S.A. 2020 Event.

To participate, send in a short video—thirty seconds or less—telling Acres U.S.A. what soil health means to you. You can find complete contest details at www.acresusa.com/thedirtonsoil Contest entries will be accepted April 1st through May 31st and the winner will be announced on June 30th.

Contact: Hannah Fields, (970) 392-4490, hfields@acresusa.com





Farm Service Agency

Soil Health and Income Protection Program (SHIPP) Pilot

FACT SHEET February 2020

Overview

On February 20, 2020, the Farm Service Agency (FSA) announced a Soil Health and Income Protection Program (SHIPP) Pilot. The SHIPP pilot allows for a maximum of 50,000 acres to be enrolled in the prairie pothole states of Iowa, Minnesota, Montana, North Dakota, and South Dakota.

Program at a Glance

SHIPP is a voluntary program that allows contracts with agricultural producers for a contract term of 3, 4, or 5 years. Recently expired CRP acres are not eligible for enrollment and participants must plant the lowest practical cost perennial conserving use cover crop. The 2018 Farm Bill authorizes a maximum of 50,000 acres for SHIPP. The Food Security Act of 1985, as amended, authorized SHIPP and is governed by regulations published in 7 CFR Part 1410.

Eligible Land

Eligible land must meet the following criteria to enroll in SHIPP:

- be less productive land on the farm
- have been planted (and not in CRP) in crop years 2017,
 2018, and 2019, and
- have a total of no more than 15 percent of the eligible land per farm enrolled in SHIPP.

Who is Eligible

To be eligible for SHIPP, land must be located in one of the prairie pothole states of Iowa, Minnesota, Montana, North Dakota, or South Dakota.

Payments

Annual rental payments will be made at 50 percent of the weighted average soil rental rate for the SHIPP offer, using the county average rental rate for the applicable county; the rate for beginning, limited resource, socially disadvantaged, and veteran farmers and ranchers will be 75 percent. Costshare is only available to beginning, limited resource, socially disadvantaged, and veteran farmers and ranchers for practice establishment.

Land may be hayed or grazed outside the primary nesting season with no reduction, provided adequate stubble height of the cover is maintained to protect the soil as specified in the conservation plan. In exchange for a 25 percent reduction to the annual rental payment, and not being eligible to be insured or reinsured under the Federal Crop Insurance Act, the land may also be harvested for seed outside the primary nesting season as specified in the conservation plan.

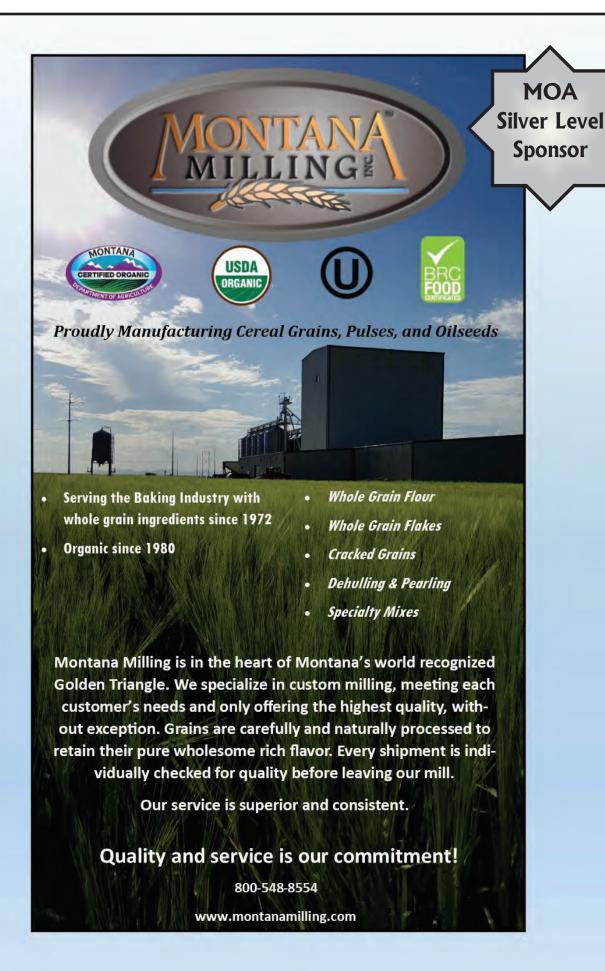
How to Apply

Producers may apply for this limited time SHIPP pilot at their local FSA office from March 30 – August 21, 2020.

More Information

For more information about FSA and its programs, visit **www.fsa.usda.gov** or contact your local FSA office. For local USDA Service Center information, visit **farmers.gov/service-locator.**





MOA Members Attend the Organic Seed Growers Conference in Corvallis, OR

By Benjamin Clark

The Organic Seed Growers Conference (OSGC) is a bi-annual event that is organized by the Organic Seed Alliance (OSA), and this year was held at the Oregon State University campus. Breeders, researchers, growers, buyers, and advocates for ethical seed stewardship from around the world all convened on the second week of February under a rainy Corvallis sky. Over the course of the event, an inspiring conversation took shape that outlined the challenges, successes, and obstacles that OSA and every farmer faces in regards to how we manage our seed-especially organic farmers. Several MOA members were in attendance, and a significant amount of Montanans were present to lend their voice to discussions-including a panel discussion with MOA board member Judy Osowitz sharing from her experience growing vegetable and flower seed in the difficult, short seasons that Montana farmers are so familiar with.



Montanans at the 2020 Organic Seed Growers Conference in Corvallis, OR. Photo courtesy of Kiki Hubbard

Growing seed is the natural by-product of growing food-much of what we eat in the plant world is either the vessel that carries a seed to soil, or the seed of the plant itself. Our relationship with these plant species has irrevocably changed the surface of this planet, as well as the fundamental makeup of our own genes. It is incredibly important that we continue to steward these genetic resources, however our modern industrial society has done a poor

job when it comes to preserving the diversity and health of the genetics we rely on. Under the purview of modern science and market forces, the trend in plant breeding has spiraled towards uniformity and overproduction. This has come at a huge cost to biodiversity-in the year 1999 the Food and Agriculture Organization estimated that over 75% of plant genetic diversity had been lost since the year 1900. Currently, about three quarters of all food consumed by humans comes from just twelve plants, and five animal species. It takes a few moments of reflection to let the severity of our situation sink in-never before have so many people depended so entirely on such a small number of species. How did we let this happen? As a people, we've forgotten about next years' seed. Except, perhaps, for those people gathered at the OSGC 2020.

As an organic association, MOA and its members have much to gain by continuing to participate and attend these bi-annual conferences. OSA is a strong organization with a clear and direct purpose that aligns well with the work that MOA is engaged with. It was exciting to meet many growers and farmers from Montana and nearby regions, and as organic farming and ranching in Montana continues to expand, meeting the needs of organic growers with organic seed will continue to be a priority. Already there has been great work in Montana to meet those needs, such as the creation. of the seed growers co-op Triple Divide Seeds. My hope is that more growers involved with MOA will seek to educate themselves on the important issues that organic seed production highlights, especially in genetic policy, and that we will continue to support the production and expansion of organic seed across our landscapes.

Benjamin Clark is a Quivira Coalition New Agrarian and an apprentice at Vilicus Farms, Havre, MT.

To read his full account of the <u>2020 Organic Seed</u> <u>Growers Conference</u>, visit the MOA Website.

Centennial Farm & Ranch Program

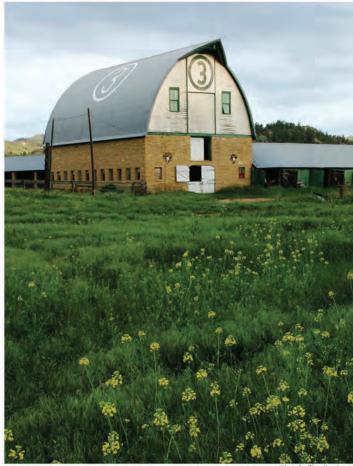


Photo by Tom Ferris



P.O. Box 201201, 225 N. Roberts Street Helena, MT 59620-1201 montanahistoricalsociety.org

Since 2009, the Montana Historical Society Centennial Farm & Ranch Program has

recognized our state's agricultural traditions by celebrating the perseverance and stewardship of Montana families on their farms and ranches. By honoring families that have owned their land for 100 years or more, we help preserve Montana's strong agricultural roots and the stories and traditions that define our rural communities.

Requirements

- ▶ Proof of continuous ownership by members of the same family for a minimum of 100 years (through deed records).
- ▶ Proof that the property is a working farm or ranch with a minimum of 160 acres or, if fewer than 160 acres, must have gross yearly sales of at least \$1,000.
- ▶ One current owner must be a Montana resident.



Benefits

Inductees receive an official framed certificate signed by the governor of Montana and a 24-inch by 36-inch metal roadside sign with the property name and founding year (example above). Additionally, the property's history will be printed in our periodic farm and ranch yearbook.

How to apply

Application fee is \$100. To apply, download the Centennial Farm and Ranch application at http://bit.ly/MTCFRapp or call (406) 444-1687 to request the application by email or US mail.

2,000 copies of this public document were printed at an estimated cost of \$0.211 per copy, for a total of \$422.

For more information visit the Centennial Farm and Ranch Program



Sustainable Agriculture - Premium Food

We sincerely appreciate the loyalty shown by our growers.

André Giles Eldon Pfile 406-622-5436 montanaflour.com

ORGANIC PRODUCER SURVEY WILL SET NATIONAL RESEARCH AGENDA

OFRF and OSA Value Your Experience and Opinions

The Organic Farming Research Foundation (OFRF) and Organic Seed Alliance (OSA) are working collaboratively with the Social and Economic Sciences Research Center (SESRC) to identify the challenges and research priorities of certified organic producers, as well as producers transitioning land to certified organic production. Survey results will help us ensure our organizational programs meet the needs of organic producers and that the increased funding for organic research secured in the 2018 Farm Bill addresses the unique needs of organic production.

The project includes two national surveys—one for certified organic producers and the other for producers transitioning to organic certification. If you are a certified organic farmer or rancher OR a farmer or rancher who is currently transitioning to certified organic, this is an opportunity to make your voice heard. Results will be published in updates of OFRF's National Organic Research Agenda (NORA) report and OSA's State of Organic Seed (SOS) report to provide a roadmap for future research funding.

For certified organic farmers and ranchers, please take the organic survey on our secure website at: https://www.opinion.wsu.edu/organicproduction/

For farmers and ranchers who are transitioning to organic certification, please take the transition survey on our secure website

at: https://www.opinion.wsu.edu /transitionproducers/

If you have any questions about the surveys, please contact Lauren Scott

at sesrc.nora.survey@wsu.edu.

The surveys opened on February 18, 2020 and close June 1, 2020. They are voluntary, confidential, and will take approximately 30 minutes to complete. You can skip any questions you prefer not to answer. We welcome you to complete the survey in multiple sittings. The online survey saves your responses as you go along. You can stop at any point, and then resume the survey at any time by following the appropriate link above and entering your survey access code, which will be generated when you first start the survey. The online program will allow you to resume where you left off.

Upon completion of the survey, you can enter to win a \$100 gift card to REI. If you do not have access to a computer and cannot complete the survey online, please call OFRF at 831-426-6606.



Organic Farming Research Foundation (OFRF) is a non-profit foundation that works to foster the improvement and widespread adoption of organic farming systems. OFRF cultivates organic research, education, and federal policies that bring more farmers and acreage into organic production.



Organic Seed Alliance (OSA) is a non-profit that works nationally to advance ethical seed solutions to meet food and farming needs in a changing world. Through research, education, and advocacy, OSA fosters organic seed systems that are democratic and just, support human and environmental health, and deliver genetically diverse and regionally adapted seed to farmers everywhere.

Thank you for your time and support of this project!

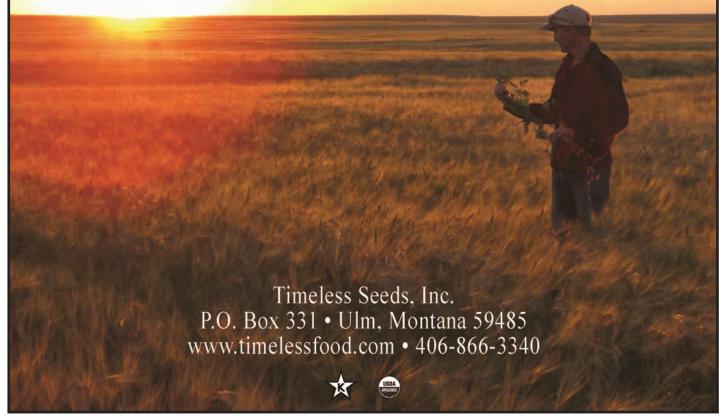
This project is supported by the Organic Agriculture Research and Extension Initiative (OREI) grant no. 2019-51300-30249 from the USDA National Institute of Food and Agriculture.



ORGANIC

SPECIALTY LENTILS, CHICKPEAS & HEIRLOOM GRAINS

We keep Montana's organic farmers on the land and in business!



Research Participation and Survey Requests

MSU Research Opportunity

Osteoarthritis (OA) is a debilitating disease that leads to pain and disability. OA currently affects 30 million Americans and results in \$90 billion in total costs annually. Agricultural workers are an estimated 2-10 times more likely to develop OA than non-farmers. There is a critical need address this rural health disparity and lessen the burden of OA on the 3.2 million agricultural workers in the United States. The project we are working on is a "movement analysis" study investigating the physical activity patterns of Montana farmers and ranchers in their respective high and low seasons. The hope is to characterize movements or movement patterns in these populations and elucidate the differences between the two in order to understand how they may be contributing to an increased risk for developing OA. The long-term goal of the study is to minimize the health and financial burden of OA in farmers and ranchers.

To complete this study, participants are asked to wear an accelerometer for a three-day period during both their low and high physically-demanding seasons as they go about normal daily activities. The accelerometers are mailed directly to the participants with a clear, short user guide. After data collection has been completed, they will simply need to mail the accelerometers back to us at MSU. Participants earn \$50 in gift cards for wearing the sensor for each season (a total of \$100 can be earned for completing this study).

You are eligible to participate if:

- You own, manage and/or work on a farm or ranch year-round with at least 50% of your work-related activities being affiliated with a farm/ranch.
- Your are between 18 and 70 years old.

You can participate whether or not you have osteoarthritis.

Contact the Principal Investigator Dr. Scott Monfort with any questions about the study: 406-994-6294 or scott.monfort@montana.edu

COVID-19 Protocols

Movement Analysis Study Sign Up

Movement Analysis Study Description

Western Farmer Cover Crop Survey

Dear Montana Organic Association,

Please take an important survey about cover crops to help improve outreach and inform cover crop incentive programs to better serve farmers.

Did you know the Western region now has a cover crops council? The Western Cover Crops Council aims to promote the successful use of cover crops in our diverse agricultural systems. In order to do that, we are asking farmers/ranchers like YOU to share your perspectives on cover crops. Whether you plant them now, planted them in the past or have not ever planted them—your perspective is important!

The survey is being conducted by partners at the University of Idaho, Oregon State University, and Boise State University with funding from the Sustainable Agriculture Research and Education Program (SARE). This brief survey will take approximately 5-10 minutes to complete. The survey is confidential, and your responses cannot be linked to you. Upon completion you will have the opportunity to enter a drawing for one of 10, \$50 Amazon gift cards. Odds of winning are approximately 1 in 75.

Please take a few minutes and share your thoughts, experience, and expertise with us! It is only with help from farmers like you that we can understand how to best guide cover crop programs for the west.

Here is a link to the survey.

Western Farmer Cover Crop Survey

Kara Young
Faculty Research Assistant
OSU Extension – Deschutes County
youngka@oregonstate.edu

"During the crisis and in the post-lockdown recovery, we need to learn to protect the earth, her climate systems, rights and ecological spaces of diverse species, indigenous people, women, farmers and workers.

"We have to shift from the economics of greed and limitless growth which has pushed us to an existential crisis. We need to wake up to the fact that we are members of an 'Earth Family' and the real economy is the 'Economy of Care' — for the planet and for each other."

Dr. Vandana Shiva





SAINFOIN: AN OPTION TO EXTEND THE GRAZING SEASON

Can this pink-flowered forage plant put you in the black?

by Jeff Mosley

Extension Range Management Specialist, Montana State University

The cost of feeding hay or other harvested forage during winter is the largest expense of owning or raising livestock in Montana. For owners or producers of grazing animals such as horses, cattle, sheep, goats, llamas, or alpacas, one of the best ways to reduce costs is to extend the number of months that livestock graze on pasture or rangeland. In other words, a great way to reduce costs is to "let your livestock do the walking (and feeding)" by spending more of the year grazing and less time being fed processed feed.

Sainfoin (*Onobrychis viciaefolia*), with its striking pink flowers, is a beautiful Montana forage plant that offers opportunities to extend the grazing season. One option is to cut sainfoin for hay in early summer (when 50 to 100 percent of sainfoin plants are blooming; about the same time that 10 percent of alfalfa plants are blooming) and then have livestock graze the hay aftermath and regrowth during fall. Another option is to not harvest it for hay but, instead, graze sainfoin twice per year, once during its bud or early bloom growth stage in early summer and again during fall. Sainfoin begins its growth about the same time in spring as alfalfa, but sainfoin reaches its flowering stage one to two weeks earlier, allowing sainfoin to be grazed earlier in the year than alfalfa. Grazing sainfoin in

early summer also provides opportunities to delay grazing of native rangeland or other pastures until later in summer when those plants are more tolerant of grazing.

Sainfoin is an ideal pasture plant because it is nutritious and palatable to grazing animals and, unlike alfalfa, sainfoin does not cause bloat. Bloat is a serious sickness in grazing animals where the stomach and bowels become distended with gas. Bloat makes breathing difficult and is often fatal. Bloat can be avoided with alfalfa by delaying grazing until alfalfa plants are dormant, but no such delay is needed when grazing sainfoin. Also, compounds contained in sainfoin naturally control internal parasites of grazing animals, reducing the need for pesticides. One cautionary note is that sainfoin is very palatable to all grazing animals, not just livestock. Deer, elk, pronghorns, and bighorn sheep all are attracted to sainfoin. This can make for great wildlife viewing, but wildlife use of sainfoin sometimes exceeds tolerable levels where large numbers of grazing wildlife congregate.

Sainfoin is suited to both dryland or sprinkler-irrigated sites, but it does not grow well with flood irrigation or where soils remain saturated. In these conditions sainfoin suffers from



crown rot and root rot. Similarly, sainfoin grows well on light-to medium-textured soils such as sandy loams or silt loams, but not clay soils that hold moisture tightly. Sainfoin is shorter-lived under irrigation than on dryland sites, and shorter-lived under haying than when properly grazed. Sainfoin will remain healthy and vigorous when grazing ceases with at least eight inches of stubble remaining on sainfoin plants.

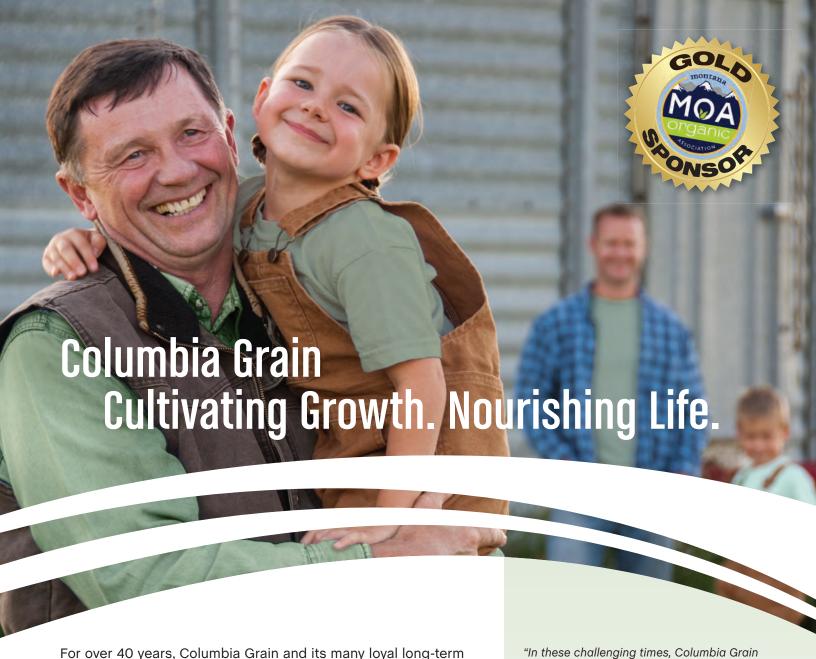
Sainfoin is easy to establish and can be planted alone or in simple mixtures with one or two grass species. Sainfoin plantings will persist longer when planted in alternate rows with grasses. Nine to 12 inches should separate the rows. Crested wheatgrass or Russian wildrye are good companions seeded with sainfoin on dry areas, while meadow bromegrass or orchardgrass are good companions on wetter or irrigated areas. Sainfoin should not be planted with aggressive rhizomatous grasses such as smooth brome that will outcompete sainfoin. Preferred sainfoin cultivars for Montana conditions are 'Shoshone', 'Nova', 'Remont', 'Eski', or 'Melrose'.

Sainfoin is a legume (see below), making it possible to grow well without needing to fertilize heavily with nitrogen. However, the specific rhizobium bacteria suited for sainfoin is not found in most Montana soils, so it is important to buy pre-inoculated seed (i.e., seed with effective rhizobium already added), or be sure to buy inoculants to treat sainfoin before planting. Sainfoin may need more nitrogen fertilizer than other legumes such as alfalfa or birdsfoot trefoil, but sainfoin requires less phosphorus fertilizer than either alfalfa or birdsfoot trefoil.



Underground Teamwork: Doubles Tennis Anyone?

Some species of forbs and shrubs, called legumes, can grow without having to add much, if any, nitrogen fertilizer. The reason is that legumes can produce their own nitrogen in the soil with the help of specialized bacteria (rhizobia) that live in nodules on legume roots. The rhizobia bacteria convert nitrogen gas from the air into nitrogen that the legume plant can use to grow. In return, the legume plant uses solar energy to convert carbon dioxide from the air to produce sugars (i.e., the process of photosynthesis) that the plant uses to feed itself and the rhizobia bacteria. In this way the legume plant and the rhizobia bacteria work together to benefit each other—nature's version of two tennis players partnering to play doubles!



For over 40 years, Columbia Grain and its many loyal long-term knowledgeable employees have supported farmers, their families and communities to ensure that their high-quality crops are valued in the market. Since 2017, we have been providing the same support for our organic farmers by offering rotational contracts, fertilizers, seeds, and inputs directed by our experienced agronomists.

Columbia Grain is truly Cultivating Growth, Nourishing Life



Tom Wanquist - twanquist@columbiagrain.com
Tony Roelofs - troelofs@columbiagrain.com
Ryan VanPevenage - rvanpevenage@columbiagrain.com
Joanne "JO" Clark - jclark@columbiagrain.com

503- 224-8624 columbiagrain.com



is taking numerous measures to ensure all of our farmers and employees are supported and safe. We are increasing processing hours at our specialty pulse processing facilities, following all CDC guidelines, following Good Manufacturing Practices (GMP), maintaining stringent Food Safety Programs, and adding more team members at our elevators to help farmers stay in their trucks while delivering their grains and pulses. The food supply chain is essential, and we are doing everything necessary to keep all safe and food flowing to nourish the world."

Jeff VanPevenage, President and CEO



Farmer Support Farmland Conservation

Food Access





FARMER SUPPORT

CFAC helps beginning farmers and ranchers build successful and sustainable businesses through:



Education on business and production



Assistance accessing land, financing, and markets



Networking opportunities







Going beyond sustainability.

Sustaining our natural resources is not enough. We need to play an active role in regenerating them. 55

- Mary Jane Melendez, Chief Sustainability and Social Impact Officer



on 1 million acres by 2030. From our 55,000+ acre oat pilot; to converting Gunsmoke Farms' 34,000 acres to

organic; to collaborating with The Nature

Conservancy to develop reThink Soil: A roadmap to

Cheerios







U.S. Soil Health. We are on a journey to restore and regenerate natural resources for the future health of farming.



Manufactured from animal proteins like feather meal, meat meal and bone meal, Nature Safe is one of the largest organic fertilizer manufacturers in North America offering dry pelleted and wettable powder solutions for your crops.

Use Nature Safe as a starter fertilizer or a topdress — for any crop you are growing. Nature Safe offers high organic nitrogen and phosphorous formulations that can meet your agronomic or economic fertility challenges. Nature Safe's all-organic products are listed by OMRI (Organic Materials Review Institute).

Avaliable in bulk and totes.



616-566-0307 · naturesafe.com

Your Choice for Soil and Plant Nutrition





Organic Inspections and COVID-19

On-site inspections for your organic operation means having an inspector visit your operation. What do you do in a time of social distancing due to COVID-19? Georgana Webster, Organic Program Manager, Montana Department of Agriculture, provided the following guidance for on-site inspections.

At this time there will be no on-site inspections until further notice. You can expect updates regarding inspections, scheduling, and alternatives as the situation progresses.

If you are a new producer, your inspection will be prioritized. When on-site inspections are deemed-safe, every effort will be made to complete your inspection in person as required.

The following should be maintained and saved by each of you this season to enable verification for organic certification:

- Photographs of seed packets, bags or saved seed including tags, labels, etc. These photos should correspond to seed receipts, invoices, inventory, etc.
- 2. Photographs of seeding with date and field identification noted. Use a landmark in the photo background if possible.
- 3. Photograph identifying yourself in the plot/field you are seeding for each different crop-(practice that selfie)
- 4. Photograph of any inputs (inoculants) or amendments either by box, bag, bulk, containers, tanks, tags, labels, etc. These should correspond to receipts, invoices, etc.
- 5. Photographs of buffer zones (if any) clearly showing length and width of zone

There is the possibility that a remote phone, skype, facetime remote desk audit inspection could occur if an on-site inspection is not possible.

It is also possible that both a remote and onsite inspection with social distancing, may occur, depending on circumstances. An in-person inspection could occur when public health and safety recommendations allow.

It is imperative that the above photograph verification is taken to ensure compliance with certification and for us to meet the requirements of the USDA NOP.

Do you know that MOA has a Business and Resource Directory on its website?

As a membership benefit,
Farmer/Rancher, Organic Business, and
Premium Members receive a listing in this
searchable directory. Each listing includes
space for a logo, a photograph, contact
information, list of products and services,
and an operation description.

- Please support the farms/ranches and businesses that support MOA.
- Please check your listing and send in any updates, including a logo and photo, or anything missing from your listing that you would help others know about your operation.



MOA Business and Resource Directory



Membership Form: All Memberships renew on December 1, 2020. Purchase online or use this form to be mailed with your check to: MOA, 3312 Hollis St., Missoula, MT 59801.

Name:	
Farm or Business:	
Address:	
City/State/	
Zip:	
Phone Num-	
pers:	
Email:	
Membership Level (mark one):	

Basic Memberships	Premium Memberships		
Individual - \$30	Lifetime, two memberships, 10% discount on ads, website directory listing - \$750		
Household, two memberships - \$50	Lifetime Business, two memberships, 10% discount on ads, website directory listing - \$2500		
Farm/Ranch/Business, two memberships, 5% discount on ads & website directory listing - \$75	Silver Membership, two memberships, full-page ads, website directory listing, two conference registrations, conference lunch sponsorship - \$1650		
Organic Business, two memberships, 10% discount on ads, & website directory listing - \$250	Gold Membership, two memberships, full-page ads, website directory listing, two conference registrations, conference dinner sponsorship - \$2000		

Tell us more about what you do. Farm? Ranch? Researcher? Student? Supplier?

TOTAL AMOUNT OF YOUR PURCHASE
Return form(s) with your membership dues/donation to:
Montana Organic Association, 3312 Hollis Street, Missoula, MT 59801

If you have questions, call Jamie Lockman at (406) 546-6572 or email her at: moamember-ship@gmail.com OR to pay online, visit www.montanaorganicassociation.org/commerce.htm Rev. 4/7/20



Montana Organic Association

is a 501 (c) 6 non-profit organization dedicated to advocating and promoting organic agriculture for the highest good of the people, the environment and the State economy.

MOA Board Members

Becky Weed - Chair

Cliff Merriman-Vice Chair

Heather Estrada - Treasurer

Mona-Rae Tuhy - Secretary

John Wicks - Member at Large

Sam Schmidt - Parliamentarian

Doug Crabtree—Past Chair

Jess Alger

Gary Iverson

Judy Owsowitz

John Porterfield

Nate Powell-Palm

Executive Director

Jamie Ryan Lockman

Organic Matters is published quarterly by the Montana Organic Association. Send queries, suggestions, letters, and requests to:

Montana Organic Association 3312 Hollis Street Missoula, MT 59801 (406) 546-6572 moamembership@gmail.com www.montanaorganicassociation.org

Organic Matters occasionally includes guest articles and opinions. While we review these for relevance to our mission, the opinions in these articles may not reflect the opinions or policy of the Montana Organic Association.

Advertise in Organic Matters

MOA's Quarterly Newsletter

Organic Matters Ad Rates Ad prices and dimensions:

1 page ad -- \$110 (Size: 7-1/2W x 10H")

3/4 page ad --- \$90 (Size: 7-1/2W x 6-1/2H")

1/2 page ad --- \$65 (Size: 7-1/2W x 5H") -OR-

(3-1/2" W x 10"H)

1/4 page ad - \$40 (Size: 3-1/2W x 4-1/2"H)

Business card ad --- \$30 (Size: 3-1/2W x 2H")

*If you are a Farm/Ranch/Business level member, you will receive a 5% discount on your ad. If you are an Organic Business or Lifetime member, you will receive a 10% discount

Please Support MOA Advertisers and Sponsors!

The Montana Organic Association (MOA) brings together people, businesses, organizations, and agencies who are working to develop Montana's organic industry. MOA is proud of its legacy that has led Mon-tana to be a national leader in organic production. But MOA is more than organic production; it also serves to educate about organic products including food, fiber, and non-food items like personal care items and household supplies, and ways to limit the use of chemicals in everyday life. MOA also advocates for policies that protect the environment, promote healthy living, and support individuals, farms and businesses who are actively engaged in developing sustainable businesses and communities. MOA ac-complishes this through hosting events, serving as an educational resource, providing network opportunities, and communications.

Do you want to support MOA's work?

MOA has several affordable membership options. Visit the MOA website to learn more.

www.montanaorganicassociation.org



Thank you! MOA Sponsors and Members!



Rudy Agro, Inc. • Michael Baerwald • (306) 867-8667 115 B Saskatchewan Ave.Outlook SK www.rudyagro.ca

Dear MOA Members:

MOA works with organizations like the National Sustainable Agriculture Coalition (NSAC), the Organic Trade Association (OTA), and more on policy issues. Many times questions are asked about how farmers are interacting with federal programs; are sign ups going well? Are you being sufficiently notified of programs for your farm? What programs do Montana's organic farmers use? Are there problems with requirements for organic farmers?

Help MOA know what works for you and what doesn't work for you, at any time, by dropping us a line. The squeaky wheel really does get the grease. These organizations have the capacity to amplify MOA members concerns with research, collaboration with other organizations, and with excellent contacts in Washing-ton, DC. moamembership@gmail.com

Jamie



Montana Industrial Hemp Processing Inc.

Growing Montana's Hemp Industry With Honesty and Integrity (Licensed with Montana Dept. Of Ag.)

Are you a hemp producer looking for a safe, reliable place to market your crop? Can you grow, harvest and bale hay? If your answer is yes, check out Montana Industrial Hemp Processing Inc.

Montana Industrial Hemp Processing Inc. will provide you with the seed to grow and pay up to \$400 ton bulk weight on baled harvested hemp. You simply plant, grow, harvest and bale the hemp crop and MHIP will take care of the rest.

"Your crop" will be processed right in Montana at our new facility in Bonner, MT!

For more information please join us on one of our daily Go To Meetings at 2pm MDT M-F April 5-May 15.

Montana Hemp Project

Please join my meeting from your computer, tablet or smartphone.

https://global.gotomeeting.com/join/427986101

Or call in at 1-312-757-3121 Access Code 427 986 101

For questions regarding Montana Industrial Hemp Processing Inc. please call Paul Smith 1-303-856-4464



"GROWING FUTURES TOGETHER"

We provide more than coaching. Our mission is to help you allocate your resources to be more profitable. 406 Agronomy utilizes a variety of services to coach farmers, from "boots on the ground" agronomy services to the latest precision ag technologies.

We are located in the state of Montana.
Our Agronomy Coaches cover many miles
and acres from the Golden Triangle to
Billings and surrounding areas.

Learn more at www.406agronomy.com

406.855.4765 roots@406agronomy.com



PROUD DISTRIBUTOR OF REPLENISH NUTRIENTS LTD.





MOA Announces the 18th Annual Conference and Business Meeting*

Planning for MOA's annual conference is underway despite the current gathering restrictions due to COVID-19. The conference is scheduled to take place at the University of Providence in Great Falls, December 3—5 with the Annual MOA Awards Dinner and Auction held on December 4 at the Meadow Lark Country Club in Great Falls. We are still working on determining our keynote speaker—stay tuned!

There are many ways to participate in the conference whether as a vendor and/or sponsor, as a speaker, as a moderator, as a food supplier, as an auction donor, or as a volunteer. We need you!

- The <u>Call for Speakers</u> is now open with submissions due by August 1, 2020.
- The <u>Call for Student Posters</u> is open with submissions due by November 1, 2020.
- The <u>Call for Volunteers</u> is open with no deadline.
- The <u>Call for Food and Beverage</u> suppliers is open with proposals due by November 20, 2020.

The next MOA gathering promises to be memorable and bring together old and new friends to learn, to tell stories and reminisce, to do business, and to enjoy fantastic organic food.

*Given the COVID-19 Pandemic the MOA Conference taking place per usual is subject to change. Planning for the conference continues, but the MOA Conference Committee recognizes that the conference may look different in 2020. In the



Montana Organic Association 3312 Hollis Street Missoula, MT 59801 montanaorganicassociation.org (406) 546-6572 moamembership@gmail.com

Do you have questions about COVID-19?

ATTRA has a wealth of resources available to help you including a COVID resource page that is regularly updated. ATTRA also has Agriculture Specialists producing a series of videos and blogs to connect you with real-time solutions to these challenging times.

NCAT is collaborating with partners across the nation to hear from farmers in listening sessions and will consolidate and share broadly information on challenges, opportunities, and innovation.

Please reach out to NCAT/ATTRA with questions or to participate in their listening sessions. They can be reached at: askanag@ncat.org or 800-346-9140.

A View from the Chair Becky Weed, MOA Chair, Thirteen Mile Lamb & Wool

The COVID 19 crisis is an ugly and difficult awakening, but it is also an inspirational one. The virus will diminish in the coming months (or years?), but its economic impact and other vulnerabilities in our food supplies won't simply fade away. Many Montana farmers want to help address the near-term urgent needs of people in acute economic distress, but we are compelled as well to face head-on the vulnerabilities revealed by a frayed national supply chain. Both the short-and long-term challenges require that farmers ally themselves with the broader community. These challenges cannot, and should not, fall solely on the backs of farmers.

When the pandemic blew up several weeks ago, the Montana Organic Association (MOA) quickly learned that many colleagues in the sustainable ag community were, like us, seeking ways to help. The Montana Food Providers Project is the result of initial discussions between MOA and AERO, and ongoing inclusion of several players in our broader ag community who have for many decades concerned themselves with all facets of our collective imperative for building resilience and quality in the Montana food system. To launch some rapid action in response to the current crisis, producers, processors and purveyors have teamed up quickly: Montana Milling have provided a few pallets MT organic whole wheat flour at a steep discount; Timeless Seeds is donating some lentils and will sell more discounted pallets; the Oil Barn of Big Sandy, MT is supplying safflower oil from The Oil Barn, and others are now investigating donations and/ or discounted sales of meats, vegetables and other grains. The Montana Food Bank Network and Quality Food Distributing are teaming with us to execute vital transport and distribution. To achieve the full potential of this Montana-grown assistance, we need help from any and all who can donate funds. Some farmers have already donated to local food banks, even as they face their own financial crises due to lost accounts from restaurants, and other institutional buyers....and all of this is happening at the onset of planting season, when seed and labor costs are mounting. See the AERO website (www.aeromt.org), for an easy way to make a tax-deductible donation. You may also send checks to AERO. attn: Montana Food Providers, P.O. Box 1558, Helena, MT, 59624.

For the next six months, all donations to this special account will help execute the urgent assistance described above. As the epidemiology unfolds and economic reconstruction begins, we will more explicitly return our attention, and hopefully yours, to the task of increasing resilience in our food supply and our farmland ecosystems. Each region of the state, and each sector of agriculture has projects underway or in planning stages. We anticipate that the current crisis may cause many in our community to view the food supply lines with revitalized eyes; the interconnections go way past pandemics, to climate conditions, labor and income inequities, to biodiversity and geopolitical fragility, and basic nutrition and health. We hope that investors and donors, large and small, will be inspired to invest in this fundamental imperative for robust food systems that reaches across partisan and cultural boundaries like no other. The Montana Food Providers want to help you learn how to help.



FOR FURTHER INFORMATION PLEASE CONTACT US AT:

QFDistributing.com info@QFDistributing.com (406) 551-2231 The Organic Advisory and Education Council (OAEC) is a non-profit organization made up of Montana certified organic farmers whose mission is to assess priority needs for research and education specific to Montana's organic farming community. OAEC's mandate is to identify and to target funds for essential projects. In an equally important role, OAEC provides information and advice to researchers and educators on areas of critical need in the organic community.

Organic Advisory & Education Council

2020 Board of Directors:

Chairman: Ole Norgaard Lewistown, MT

Vice Chairman: Warren Lybeck Chinook, MT

Treasurer: Catherine Odden Dutton, MT

> Secretary: Sam Schmidt Great Falls, MT

Nate Brown Belgrade, MT

Alison Harmon Bozeman, MT

Wes Henthorne Big Timber, MT

> Matt Johnson Hinsdale, MT

Ty O'Connor Broadus, MT

Lise Rousseau Silva Polson, MT

> Terri Sims Malta, MT

Organic Advisory & Education Council 475 Vixen Ln Shonkin, MT 59450 (406) 733-6633 EIN: 45-2308574

OAEC - Stakeholder Letter April 2020

Dear Growers,

We are happy to give an update before everyone gets busy with spring work, as well as we want to thank you for your on-going collaboration. Early this year OAEC, MSU and Dr. Sands submitted two grant applications (USDA-OREI and USDA-Specialty Block) for the potential future support of our Biocontrol project. Many of you have written support letters (again thank you), and we will keep you informed on the results of these grants. The Organic Farmer Advisory group that is connected to CARC met with Dr. Pat Carr last month, and plans are in place for the 2020 CREEP STOP work. The corona virus has kept everyone hunkered down recently, and it is important that the everyone stays safe, but even as it hampers our style a bit, projects are moving forward.

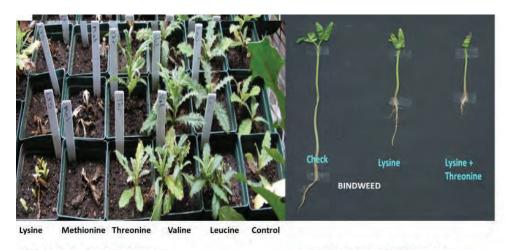
A note from Dr. Dave Sands laboratory:

We at the David Sands lab have been working hard on the exploitation of novel Fusarium oxysporum to fight Canada Thistle and Bindweed. We have overcome our initial setback of being unable to grow perennial weeds in captivity. Also, we have firmly established our procedures for these first project phases. The current situation of covid-19 has temporarily hindered our laboratory work, but despite this we must move forward as our field- testing windows are approaching rapidly. The new season also brings new opportunities to find new Fusarium oxysporum to test. So far, we have not been satisfied with the results of the pathogenicity tests we have run on the previously collected FOXY. To that end we could use your help. We need more new samples of dead and dying weeds to harvest new Fusarium oxysporum strains. As farmers who deal with these weeds daily you are in the best position to find these novel fusaria. Please watch for sick weeds, as we are uncertain whether we have collected the best samples with the best fungi so far. Furthermore, the search can be broadened to include rangeland, riparian zones near streams and ponds, and conservation lands such as CRP. These areas where no cropping is occurring, may have weeds that have had time to build up a disease "reservoir". Happy hunting, Dr. Dave Sands and Tommy Weiss.



Better virulence (knockdown in the greenhouse) on Thistle is being seen, and MSU anticipates putting these out in fields this spring.

Twitter: @MTOAEC

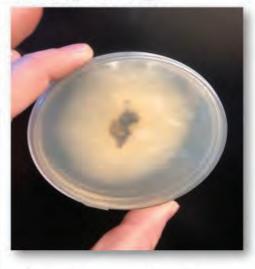


CANADA THISTLE FIELD BINDWEED AMINO ACID INHIBITIONS

These are our two weed targets, showing what the amino acids can do. MSU is working hard to get your strains to make these amino acids in the greenhouse.

Using Wheat Seed to Disperse FOXY For large acreages





Spores from culture media can be grown in large amounts and applied in seed coatings Sands US Patent

These seed have a Germain's Company seed coating and in the coating is a FOXY fungus isolated from an OAEC sample. The fungus establishes on the roots (rhizosphere) of the wheat without any damage to the plant. We will test this in the field this spring. We want to know if this system will allow us to vaccinate the soil with a weed pathogen (FOXY) so that we get long term effects. Of course we will switch to an Organic Approved system but this is a big start.

The search for new strains of *Fusarium oxysporum* continues. Temporary travel may be curtailed, so we really have to rely on you for Thistle and Field Bindweed samples. Dr. Dave Sands: You know your fields better than anybody else, so this is a positive aspect of a not so good situation. Optimally you will want to look for one or more patches of dead plants. If you've ever had wilt in your crop, you'll know what to look for, as the plants will be wilted. More specifically, infected plants will have discolored vascular tissue especially towards the base of the stem. This type of wilt is most likely caused by *Fusarium oxysporum*, which is what we are looking for. We want the plants that have most recently died, so grab a few at the edge of the dying patch. Please be careful, the fungus may or may-not be secreting mycotoxins, so use care (wash your hands, etc.) when handling the dead plants.

To harvest the plant, simply pull it as if pulling a weed in a garden and shake off the dirt. We do want as much of the plant as possible, but really we need the 2 inches above the soil line, and 6 inches below the soil line. We have no need for the dirt ③. Grab a few plants from different areas of the patch. If the patch is circular, harvest from around the circle. If the patch is amorphous, harvest from various parts of the shape. Please remember to always harvest at the edge of the patch, to avoid older diseased plants that may have secondary invaders.

We would like to start receiving new samples as early as May. MSU likes early samples, but the plants usually show wilt symptoms after it dries out (wilt diseases shut off the water). We know that you will be finding samples through-out the summer. MSU is also looking for weed seeds to maintain the greenhouse supply of Canada Thistle and Bindweed, so they can continue to experiment through the next winter. Most can harvest their own Canada Thistle, but they especially need field bindweed seeds. To harvest them, find a pod and put the whole thing in a bag. Please include the same info to us (OAEC) as with the sick plants, and say whether they came from healthy or sick plants. If sick plants wilt but still set seed, MSU needs that seed, even if it is late in the year. Fusaria fungus on Bindweed seed has been detected, and it's a new promising source.

Thanks again everyone, and lets hope we can all get together soon. PS, if you are willing to put out a small field plot in C.Thistle or Field Bindweed, whether it be on organic certified land or non-certified, please let us know.

If you have any questions, please email or call us at:
OAEC - Sam Schmidt 406-788-7135 sam@montanamilling.com
Tommy Weiss 949-244-6069 skiderdun@gmail.com
Dr. David Sands 406-209-5405 davidsands41@yahoo.com

OAEC Plant Material Donation Form

Name:						
Farm	n Na	me:				
Addr	ress	/Phone:				
2. 3.	 Record the location, date, and take a picture of the site from which you take the sample(s). Dig up the plant(s) down to the roots and shake off the dirt. Look for discolored roots. Place each sample in a numbered paper bag with the location information clearly indicated for each. DO NOT use a plastic bag. The humidity in a plastic bag will negatively affect your sample. Fill out this form for each sample species of weed, Bindweed or Thistle, (use additional pages if necessary) and mail it and your samples to: OAEC, 475 Vixen Ln, Shonkin, MT 59450, 406-733-6633. 					
Advison Complete C	sory pens nere sory	and Educati sation for thi by donate th	is/these Canada thistle <i>(Cirsium arvense)</i> sample(s) on Council for organic research. I understand that I	will not receive any to the Organic		
Date	e:					
Signa	atur	e:				
Sampl	e #	Date	Location	Species		