

# LIBERTY COUNTY NEWS

jointventure

M.S.U. Liberty County  
Extension Office—Chester, MT

Liberty County  
Conservation District

June 2023

Montana State University Extension and the Liberty County Conservation District are collaborating this newsletter. We will keep you informed on news and events in both offices. As agriculture is a major focus for both offices, we have events that often coincide. Please let us know if you have information on upcoming events and happenings.

## Upcoming Events

- Range Days ~June 19-21, 2023 ~Shelby, MT.
- 1000 Farms Regenerative Research ~June 26, 2023 Skierka Bros. Inc. 5525 1700 Rd S ~ Chester, MT
- Marias County Fair ~ June 19-23, 2023 ~ Shelby MT
- Hi-Line Harvest Festival ~ September 23, 2023 Chester, MT

## THE LIBERTY COUNTY CONSERVATION DISTRICT

**Board of Supervisors:** Lanny Jones, Rodney Oraw, Tyler Streit, Michael Nelson, Megan Hedges, Tyler Jones, Kurt Matkin

**Associate Supervisors:** Robert Pugsley, Rodney Svenson, Ray Morkrid, Geoff Osterman

**Administrator:** Diane Roberts

## THE NATURAL RESOURCE CONSERVATION SERVICE

**District Conservationist:** Misty Vermulm

**Technician:** Dan Kultgen

**Soil Conservationist:** Zach Williams

**Pheasants Forever:** Maverick Cady

## Liberty County Conservation District

18 Main Street  
USDA Building

406-759-5128 ext. 102

Email:  
libertycountycd@gmail.com

Website:  
libertycountycd.macdnet.org

LCCD holds monthly board meetings on the third Thursday of each month. The meetings begin at 7:00 p.m. in the USDA conference room. Any member of the public is welcome to join.

## MSU Extension

111 1st Street E  
Liberty County  
Courthouse  
406-759-5625



**Liberty County  
Extension Agent:**

*-Jesse Fulbright*

**Extension  
Administrative  
Assistant:**

*-Julie Gagnon  
[liberty@montana.edu](mailto:liberty@montana.edu)*



# Montana Range Days

June 19th, 20th & 21st, 2023

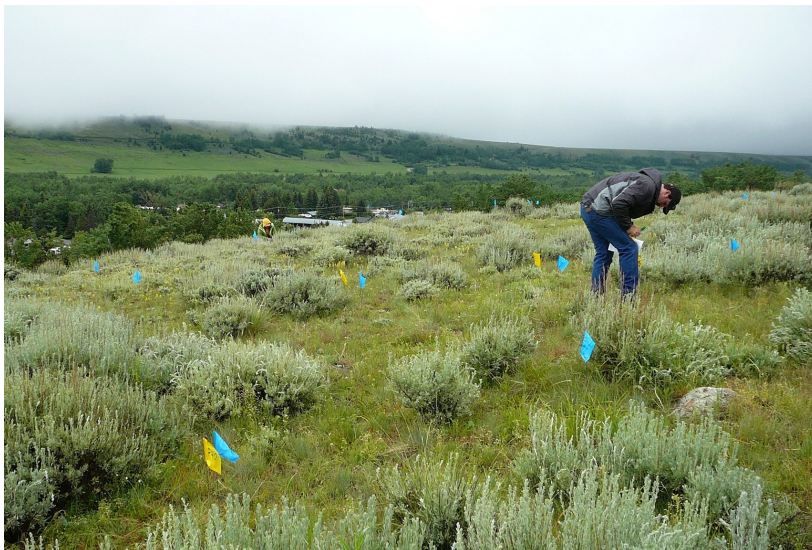
Marias Fair Ground, Shelby MT



Hands on Education



Sustainable Resource Management



An Enduring Legacy

2023 Montana Range Days in Toole County

This is Toole County's second time hosting Montana Range days and we are excited to welcome you to beautiful Shelby, MT.

We're planning an excellent event with top notch educational programming, excellent food, and the opportunity to meet fellow rangeland enthusiasts from across the state.

To register for the event or find more information about the Range Days event go to the link below:

[www.montanarangedays.org](http://www.montanarangedays.org)

Registration includes 5 meals, books and materials, and transportation.

Contact us at: 406.434.5835

Email: [toolecountyed59474@gmail.com](mailto:toolecountyed59474@gmail.com)



# 1000 Farms

## Regenerative Research

**FREE TO ALL  
ATTENDING**

**Supper Provided**

For directions and to RSVP,  
call Diane Roberts at 406-  
759-5128 x 102

Sponsored by



**Monday, June 26, 2023**

**2:00 – 5:00 pm: Informational Workshop**

**Featuring Dr. Jonathan Lundgren  
Founder and Director of Ecdysis Foundation**

**Located at:  
Skierka Bros Inc  
5525 1700 Rd E  
Chester, MT**

Dr. Lundgren is an agroecologist, Director ECDYSIS Foundation, and CEO for Blue Dasher Farm. Lundgren's research and education programs are helping applied science evolve in ways that foster the evolution of a regenerative food system. One of his priorities is to re-envision how science is conducted to help fuel a revolution in regenerative agriculture. He regularly interacts with the public farmers around the world regarding ecologically intensive farming and how diversity fuels the resilience and productive agroecosystem and rural communities.

**Dr. Lundgren and his research team traveled the Montana Highline in 2022 studying regenerative farms. Please join us to hear about the findings, what they measured, and how his research can help regenerative farms in the future.**

All entities are equal  
opportunity employers,  
providers, and lenders.

Reasonable  
accommodations  
provided for all persons  
to participate. Marni  
Thompson, (406)596-  
1195

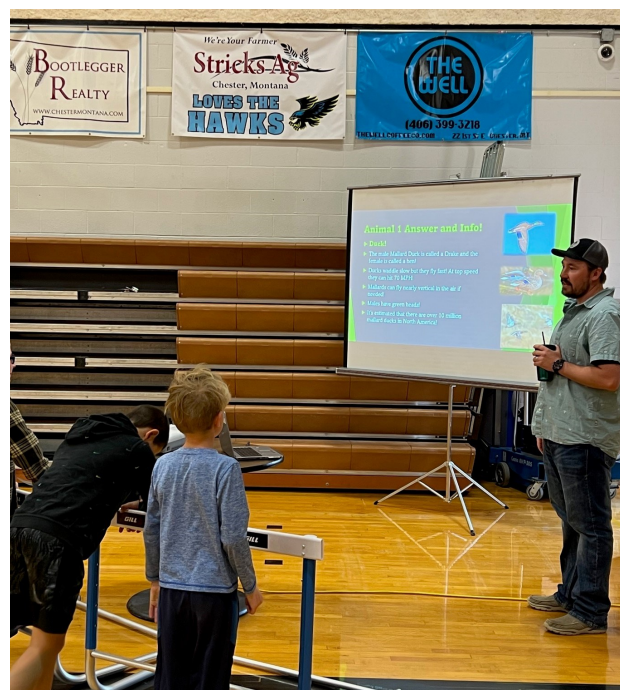


# CJI AG IN THE CLASS 2023

CJI Ag in the class was held on May 19th, 2023 for the 3rd and 4th grades. MSU Liberty County Extension, NRCS, Pheasants Forever and LCCD, hosted a range of topics.



**Soil Health** was lead by Matti Osterman and Zach Williams in the Outdoor classroom.



Maverick Cady with Pheasants Forever taught on **wildlife and their habitat**.

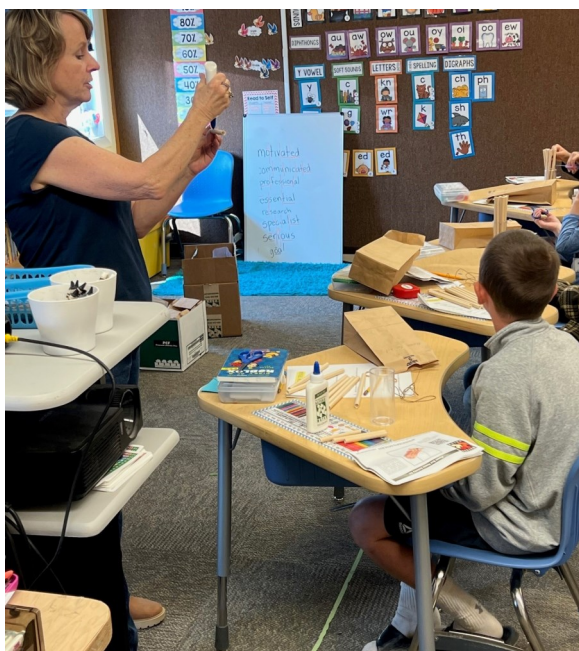
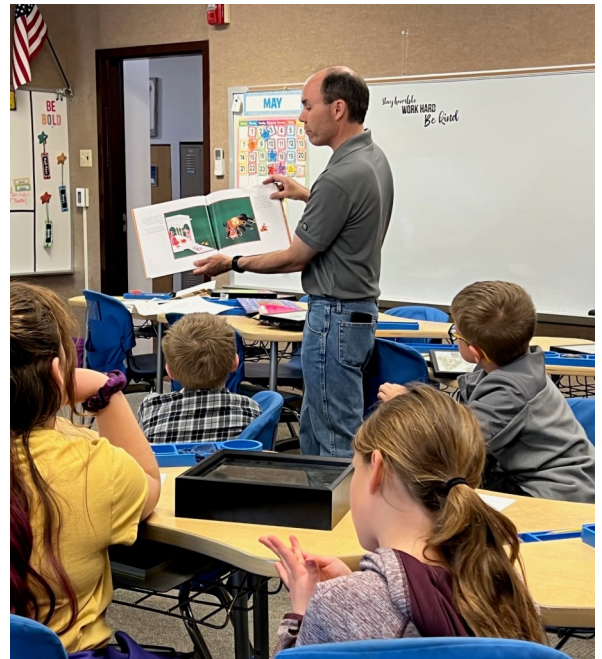




*The Rolling Rivers Trailer was presented by Mark Suta and Dan Kultgen. The Rolling Rivers trailer demonstrates the effects of river's channels with vegetation and without vegetation and the effects of floodplains, wetlands, sediment and erosion.*



*Jesse Fulbright from the MSU Liberty County Extension office taught on invasive weeds.*



*Diane Roberts from the LCCD presented the different kinds of pollinators, why they are important and how to protect their habitat.*



*Thank you to Ms. Sheble and Ms. Tempel for helping to facilitate this workshop. It was a fun day for everyone.*





## Managing wheat streak mosaic-infected winter wheat this spring.

Reports have reached me of wheat streak mosaic-infected winter wheat fields this spring. This report addresses how to diagnose wheat streak mosaic infection and what management practices are recommended at this time of the season.

### Quick Summary for Busy People

- Wheat streak mosaic is a viral disease of small grain crops, especially wheat, and is transmitted by the wheat curl mite. Yellow streaking in irregular patterns is a characteristic symptom of the disease.
- Winter wheat crops that currently show symptoms of wheat streak mosaic infection have likely become infected last fall. Infections during early plant growth stages cause more severe yield losses.
- Delay terminating an infected crop to prevent infection of nearby susceptible crops.

Don't fertilize the infected crop and avoid additional inputs to minimize financial loss. **What is wheat streak mosaic?** Wheat streak mosaic is a virus disease that affects small grain crops, such as winter wheat and spring wheat, but also barley, durum, oats, corn, and others. There are at least three viruses that cause this disease. Wheat streak mosaic virus is the most prominent viral agent in the complex. Wheat streak mosaic and the other viruses in the complex are transmitted by the wheat curl mite, which is very small and disperses in wind currents.



**How do I know it's wheat streak mosaic?** Yellow streaking and mottling of the leaves are characteristic symptoms of this disease. The symptoms usually affect the entire plant (Figure 1). Plants that become infected at early growth stages (before jointing) are typically stunted and their tillers sprawl out rather than growing erect. Wheat streak mosaic symptoms typically occur along field edges neighboring grass pastures, a maturing cereal crop, or an unmanaged fallow field with volunteer wheat (Figure 2). Symptoms may also occur in foci within a field where volunteer wheat was not managed.

Wheat streak mosaic symptoms can look similar to other plant health problems, so a careful diagnosis is recommended before any management actions are taken. Plant yellowing can also be caused by cold soils, root rots, or nutrient deficiencies. If the soil is too cold, the plants should recover as soil temperatures increase. If root rot infections are mild, the plants may outgrow the disease and recover. Leaf yellowing from nitrogen deficiency is very even (as opposed to streaking and mosaic-like patterns) and develops on the oldest (lowest) leaves first. Sulphur deficiency symptoms develop on the youngest leaves first. You may consult your local extension agent for assistance in diagnosing the cause of plant yellowing in your crop.

Figure 1. Characteristic symptoms of wheat streak mosaic infection include yellow streaking and mottling of leaves. Plants are often stunted. (Picture credit: Mary Burrows, Montana State University)

Continued on page 8





Figure 2. An infected winter wheat field in mid-May 2016 in Hill County, Montana. (Picture credit: Uta McKelvy, Montana State University)

**How do I manage wheat streak mosaic-infected fields this spring?**

Winter wheat that is expressing symptoms of wheat streak mosaic this spring has most likely become infected in the previous fall. Infection during early plant development typically results in more severe yield losses and wheat heads may be sterile. The frustrating part of viral plant diseases is that once a crop has become infected it cannot be cured. The strategy for currently infected crops is therefore to minimize further economic losses and prevent neighboring crops from becoming infected.

- **Avoid further inputs.** To minimize financial loss, we recommend refraining from adding further inputs like fertilizer (or water if this is an irrigated crop). Infected plants will not recover, and they will continue to deteriorate under warm conditions. Studies have found that adding nitrogen to wheat plants promotes wheat curl mite population growth and increases the plants' susceptibility to wheat streak mosaic infection.
- **Be a good neighbor and delay roundup applications.** Wheat curl mites depend on a living host for their survival, and they will disperse in masses from a dying host. If spring-sown small grain crops are present in the environment, they are at risk of becoming infested with dispersing wheat curl mites. At this time in the season, the crops would still be in early plant growth stages and wheat streak mosaic infections would likely cause severe yield losses. Be aware that all small grain crops are suitable hosts for the mites and viruses and they don't have good resistance to wheat streak mosaic. Therefore, delay crop termination until nearby small grain crops are at least jointing or better at the boot stage. Keep in mind that wheat curl mites can travel long distances, at least 2 miles.
- **Grazing is a feasible option to manage an infected crop.** Studies (from Australia) on the effect of sheep grazing on disease risk have not found any evidence that the virus is spread from infected to healthy wheat plants by grazing animals. The grazing did not increase wheat curl mite population sizes in the infested crop either, likely because plant biomass that provides shelter and feeding ground to the mites was reduced by grazing. Mowing is similar to grazing, only that the cut biomass would be left in the field to dry and this would provide an opportunity for the wheat curl mites to leave the drying plant material in search of a green host. Mowing could therefore trigger mite dispersal, which should be avoided this time of the year (see above). Also, mowing just like grazing doesn't kill the wheat host and for as long as the host is alive, wheat curl mites can live and reproduce on it.
- **Consider planting broadleaf crops** (pulse crops, canola, safflower, flax, ...) instead of small grains this spring.

**Where can I find more information?**

The [Crop Protection Network](#) is a great resource for information about small grain diseases, including Wheat streak mosaic.

Consult your [local Extension agent](#) if you need help with diagnosing your crop. You may also submit a sample to the [Schutter Diagnostic Lab](#).

Please don't hesitate to email ([uta.mckelvy@montana.edu](mailto:uta.mckelvy@montana.edu)) or call (406-994-557) if you have any questions. I'm here to help.

Uta McKelvy



## ***Black Grass Bug Moving from Pasture/CRP to Neighboring Winter Wheat***

MSU has received several reports of black grass bug moving from pasture/crested wheat grass to neighboring winter wheat. The stippling damage on crested wheatgrass and other grasses is feeding damage caused by black grass bugs. There are several species responsible, but in Montana the most common culprits are *Labops hesperius* and *Irbisia* spp. This is an early-season pest, and there is only one generation per year.

Black grass bug can be a serious early-season pest of grasses, particularly introduced wheatgrasses like crested wheat. Black grass bugs feed through straw-like mouthparts on plant sap. Affected acreage appears silvery and dried out and can be severely stunted. Heavy feeding reduces yield, plant height / seed-head production, and forage protein. **This damage has been observed this spring along the edges of winter wheat fields that border grass fields with high populations of black grass bug.**

There are no established economic treatment thresholds for black grass bugs. Populations can exceed 1,000 bugs/ft<sup>2</sup> when infestation is severe. Insecticidal control in forage grasses is usually not economically feasible, but summer grazing and late season burning of dead grasses may suppress egg hatch next spring, perhaps reducing future need for chemical control.

For more information:

<https://extension.colostate.edu/topic-areas/insects/black-grass-bugs-5-575/>



"Pacific grass" bug, *Irbisia pacifica* Uhler Adult



"Labops" bug, *Labops hesperius* Uhler  
Immature on host.



# Conserving our common ground.



**Locally Led, Commonsense Conservation**

NACD Stewardship Week is one of the largest national programs to promote natural resource conservation and has been celebrated annually since 1955.

Go to [Montanaconservation.org](http://Montanaconservation.org), to learn about your Local Conservation District.

# SPRING PESTO PASTA WITH ASPARAGUS

*Spring pesto pasta with asparagus and chives is light and made with simple ingredients in under 20 minutes. Serve it hot for dinner or cold as pasta salad.*

## INGREDIENTS:

- 1/2 lb. **asparagus**, ends trimmed and cut into 1-inch pieces
- 1 lb. **pasta**
- 1/2 cup **basil pesto**, store-bought or home-made
- 1/4 cup **chives**, finely chopped
- zest from 1 **lemon**
- 1/3 cup **mozzarella cheese**, cubed
- 1/4 cup **Parmesan cheese**, grated



## INSTRUCTIONS:

- Bring a large pot of salted water to a boil and add asparagus. Cook for 3 minutes, then remove with a **slotted spoon** and place in a bowl of ice water. Let cool, then drain.
- Bring the same pot of water back up to a boil. Add pasta and cook for 11 minutes, or until done. Then drain, reserving about 1/4 cup of cooking water.
- In a large bowl, combine pasta, asparagus, and basil pesto. Toss until pasta is evenly coated with pesto. If the sauce is too thick, begin pouring in some reserved pasta water (about 2 tablespoons at a time) until the sauce reaches desired consistency. Add chives, lemon zest, and mozzarella, and stir until just combined.
- Divide pasta into bowls and top with Parmesan cheese. If eating immediately, serve hot. You can also serve it cold or at room temperature as a delicious vegetarian pasta salad.

