USDA United States Department of Agriculture

Bridger Plant Materials Center

2025 Report of Activities

98 South River Road, Bridger, MT 59014, Phone: (406) 662-3579 December 2025

The mission of the USDA Natural Resources Conservation Service (NRCS) Plant Materials Program is to assemble and test plant species for use in conservation programs to solve natural resource concerns. The Bridger Plant Materials Center (MTPMC), established in 1959, evaluates and selects plant materials and techniques for establishment and management of plants for use in resource conservation activities. There are 25 Plant Materials Centers (PMC) nationwide, each serving a specific geographic and ecological area. MTPMC provides plant solutions for conservation issues across the diverse ecosystems of Montana and Wyoming. This report presents an overview of 2025 activities at the MTPMC within the Montana-Wyoming Plant Materials Program and includes links to published technical documents.

Products and Technology Transfer

Alfalfa is a commonly used legume for forage production, improving soil quality & fertility, and providing pollinator habitat.

To assist conservation planners in determining the amount of legumes to add to seed mixes, MTPMC with the WY Plant Materials Committee produced a new Technical Note titled *Incorporating Legumes into Wyoming Seed Mixtures*. Adding legumes to seed mixes can result in many benefits. Legume species produce high quality forage and seed throughout the year making them extremely valuable to wildlife and livestock. Legumes can serve to enhance conservation tillage systems, improve soil quality, reduce nitrogen input requirements, enhance wildlife habitat and pasture quality, restore native plant communities, and reduce soil erosion in critical areas. These combined factors make legumes some of our most valuable conservation plants. Native or introduced species of legumes are often added to rangeland, pasture, and perennial hay grass seed mixes to enhance diversity and improve quality and production. The proportion of legumes added to grass mixes should be carefully determined to address species (plant and animal) compatibility, resource concerns, and site objectives. This document provides considerations and recommendations for adjusting legume components in seed mixes based on objectives and resource concerns.

MTPMC finalized the study report titled *Effect of two different forage collards in the same cover crop mix and seeding rate on stand establishment and biomass production for weed suppression* in 2025. In this study, two cool season cover crop mixtures and three different seeding rates were tested for their ability to suppress weeds. The study took place at the MTPMC from 2022 to 2023. 'Impact forage'

collard *or* 'Bayou' kale were mixed with 'Lavina' barley, '4010' pea, 'Baldy' safflower, 'Surge' triticale, and 'Purple Top' turnip. These two mixes were seeded at three different seeding rates: 100%, 80%, and 60% NRCS recommended rates. Data collection occurred when triticale reached the boot stage. Plant density (plants per linear foot) was recorded and categorized into three groups: 1) Collard or kale, 2) the remaining cover crop species in the mix, and 3) weeds. This study found 'Bayou' kale and 'Impact forage' collard can be used interchangeably in a mix and achieve the same density and biomass. All seeding rates produced the same density and biomass at the MTPMC; therefore, for weed suppression, any of the seeding rates (100%, 80% or 60%) can likely be used in cover crop mixes in MT and WY. A laboratory analysis of the cover crop mixes grown in this study indicated that the forage quality was safe for livestock grazing and feed.

The forage collard cover crop study plot provided good weed suppression and biomass for forage.

Plant Materials staff work with MT and WY NRCS Plant Materials Committees to create and update conservation planning tools for use by staff and the public. This year, working with WY NRCS staff, we updated the Wyoming Annual Seed Mix Calculator. Version 4.0 of the calculator now includes spring and fall frost dates throughout WY to assist in selecting cover crop planting and termination dates, a cost estimate calculator, and an auto-conversion from pounds to ounces and grams. The biggest changes in the Annual Seed Mix Calculator were the addition of Annual Forages for Grazing Systems (CPS 810) Implementation Requirement, a Stocking Rate Tool, and a Grazing Tool. Use these tools in combination to estimate stocking rates, create annual forage grazing plans, track grazing rotations, and more.

'Garrison' creeping meadow foxtail.

The Bridger PMC maintains seed and vegetative tillers from 29 conservation plant selections for commercial growers to increase and sell to the public. To improve conservation application, MTPMC keeps our Release Brochures updated with new information. This year we updated 'Garrison' creeping meadow foxtail (*Alopecurus arundinaceus* Poir.). Release Brochures provide important information for conservation seed users on the release's source, conservation uses, area of adaptation, and establishment and management for conservation plantings. In addition, for growers of certified seed, the brochure provides important information on seed production fields based on the years of experience growing the release at the Bridger Plant Materials Center. Find all our current Release Brochures on the National Plant Materials website.

Research Activities

Plant Materials staff worked on two replicated national studies, one regional observational study, and one local trial in 2025.

National Hairy Vetch Cover Crop Study, November 2024.

MTPMC continued a study testing seeding dates, rates, and termination timing for AU Merit variety hairy vetch. The study was fall-seeded August 15, September 5, and September 27, 2024 to overwinter. Plots were irrigated only during establishment. All seeding dates and rates produced biomass before first frost and snow of winter 2024-2025. Data was collected spring and summer 2025 and will be analyzed winter 2025-2026. Results will be used to inform MT and WY conservation practices and incorporated into regional cover crop calculators and the NRCS Wind Erosion Prediction System (WEPS). We look forward to providing results in the near future.

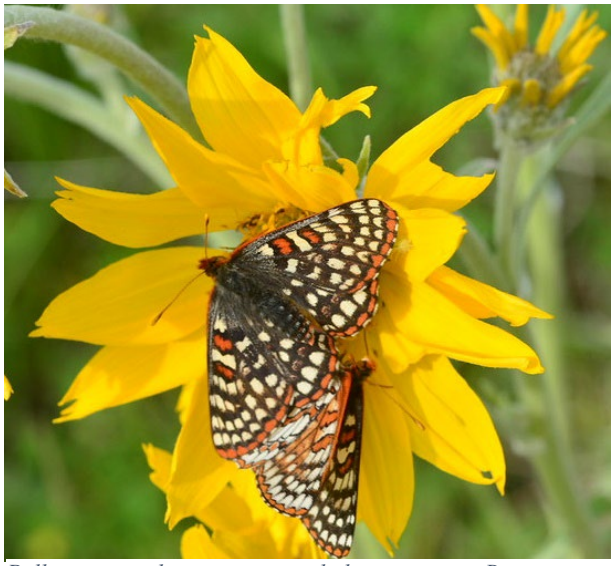
Hairy vetch plot in the National Cover Crop Seed Yield Trial 3 weeks prior to harvest, July 2025.

We participated in the National Cover Crop Seed Yield Trial in 2024 – 2025. The goals were to evaluate hairy vetch (AU Merit variety) and winter pea (Wyoming Winter variety) cover crop seed production in new areas of the country, and to test production and management methods in conditions that closely resemble those of current commercial seed production. AU Merit hairy vetch was seeded on August 22, 2024, and Wyoming winter pea was seeded on September 24, 2024. Both crops were fall irrigated and emerged to the vegetative stage prior to first frost and snow. Both species overwintered and were maintained as dryland stands in 2025. Harvest occurred in July 2025 and combine settings were recorded. The seed was weighed before and after cleaning to inform production estimates in Montana. Germination testing will occur this winter and results will be summarized with the other participating PMCs data to determine seed yield production throughout the country.

The Plant Materials Program's network of 25 Centers in various ecoregions offers unique opportunities for conducting regional studies. One of the PMCs tasks is to develop plants to be used in conservation practices specific to each ecoregion. This work is a large investment of resources for the program. To increase efficiency of the plant release process and make Plant Materials products more marketable for commercial growers, adaptation testing is being done to determine if the area of use of PMC releases can be expanded. In 2025, MTPMC initiated a four-year observational planting study with North Dakota, Washington, and Nevada PMCs to evaluate PMC plant release performance throughout the upper northwest. This new study will be evaluated until fall 2028.

Transplanting greenhouse-grown PMC released species into the field, Aug 2025.

Results will identify additional grass varieties suitable for use in conservation plantings in MT and WY. We look forward to sharing results as the study progresses.



Pollinating moths on arrowroot balsamroot near Bozeman, Montana.

There's a lot of buzz around pollinator plantings. We've enjoyed working with many Conservation Districts throughout MT and WY to create pollinator seed mixes for their Pollinator Initiatives. Questions we often get when developing mixes are: What flower (forb) species establish well in our region? How many species should we include in a mix? MTPMC has found mixes with 5 – 10 species of named varieties establish well. Yet, many pre-mixed pollinator seed sources include 10 – 30 species of forbs that have not consistently established in our region. This led us to a trial idea: to test three commercially available pollinator mixes and two Conservation District (CD) Pollinator Initiative mixes for their species diversity and the number of plants per square foot in 20 x 20 ft plots. We seeded the mixes in fall 2024, evaluated the plots in summer 2025, and will evaluate plots again in 2026. Stay tuned for results next year. Until then, check out some of our popular pollinator planting resources and visit your local Montana and Wyoming Conservation District for local Pollinator Initiative information.

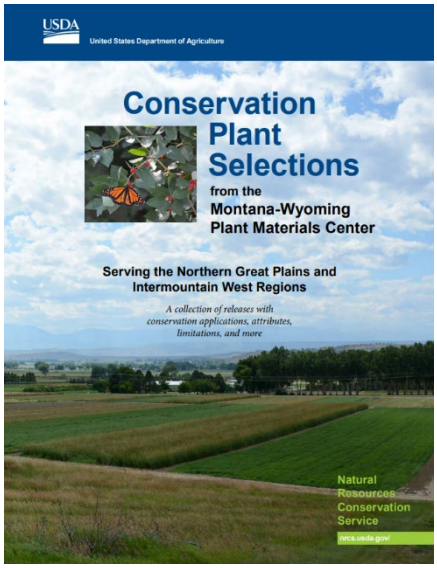
- Creating Native Landscapes in the Northern Great Plains and Rocky Mountains
- Native Plants for Pollinator-Friendly Plantings
- Creating and Enhancing Habitat for Pollinator Insects
- How to Choose a Good Pollinator Seed Mix

Outreach to NRCS Customers, Partners, and the Public

Plant Materials Program staff host field tours and give presentations each year. We held two field tours for NRCS field office staff and our Foundation Seed partners. We provided a presentation on the history of the plant materials center for the Yellowstone River Conservation District Council and a pollinator presentation for Gallatin Conservation Districts Summer Stewards program. For self-paced training available all the time, see our PMC Webinar Series on YouTube and the wealth of Publications from the Bridger PMC.

A pollinator treasure hunt during the Gallatin Conservation Districts Summer Stewards program, July 2025.

Seed and Plant Production



In 2025, the MTPMC harvested, cleaned, and distributed seed or tillers of 19 Bridger Plant Materials Releases to commercial seed growers, Universities, and researchers in 9 northern states. Once increased by commercial growers, the seed will be used for conservation practices in Montana, Wyoming, and the northwest U.S. for post wildfire restoration, pollinator habitat enhancement, rangeland improvement, CRP renovation, and more. Ekalaka Germplasm bur oak acorns were distributed to the Montana State Conservation Seedling Nursery for seedling establishment and purchase for conservation use. The Montana State Nursery annual seedling sale begins January 12, 2026. Learn about all Bridger PMC Plant Selections and their uses in our publication *Conservation Plant Selections from the Montana-Wyoming Plant Materials Center.*

Bridger PMC Staff

Farm Foreman: Darren Zentner
Plant Materials Specialist: Monica Pokorny
MACD Board Administrator: Joli Mathis

Just like the growing seasons, it has been a year of staff change at the Bridger Plant Materials Center. We would like to thank Charles Eckman, Plant Materials Center Manager June 2023 – April 2025, Michelle Majeski, PMC Agronomist / Study Leader February 2021 – August 2025, and Jesse Kersh, MT Associate of Conservation Districts (MACD) Board Administrator March 2023 – November 2025 for their contributions to the Plant Materials Program and PMC facility. We are pleased to welcome Joli Mathis as our new MACD Board Administrator, and we look forward to working together on facility and conservation needs in the years to come.

A message from Joli: My name is Joli Mathis, and I live in Bridger, MT with my husband and our two-year-old twins. I've lived in Montana my whole life and I'm grateful for the opportunity to support the Bridger PMC Board and work alongside NRCS and MACD partners. I'm looking forward to learning more about conservation and agriculture in this role.