



United States Department of Agriculture

Bridger Plant Materials Center



2024 Report of Activities

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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 2024 activities at the MTPMC within the Montana-Wyoming Plant Materials Program and includes links to published technical documents.

Training

In 2024, we offered webinar trainings for over 550 NRCS field staff and partners through plant materials brown bag webinars. These webinars are designed to deliver vegetative solutions and conservation technology to NRCS Field Offices and customers and ultimately, improve conservation implementation. Since MT and WY NRCS have many new employees, we offered two webinars providing an overview of the plant materials program, how conservation plant releases are used in conservation



Inspecting the Hunter Germplasm seed orchard, WY NRCS and CD tour, June 2024

planning, studies at the PMC, and where to find our resources. We also hosted a joint plant materials and soil health committee webinar on the *Results of a two-year study comparing cover crop mixes and seeding rates*. This webinar covered study execution and results of testing two different forage collards in the same cover crop mix. Discussions included the effect of collard species and seeding rates on stand establishment, biomass production for weed suppression, and forage quantity and quality. In addition to plant materials-focused webinars, we provided a three-part series on Herbaceous Weed Treatment and participated in Montana's Conservation Planner Training with a focus on planning and renovating windbreaks and shelterbelts. Recordings and PowerPoints of webinar presentations can be found on Montana and Wyoming NRCS SharePoint for NRCS employees and on the [MT-WY Plant Materials website](#).

Outreach to NRCS Customers, Partners, and the Public

Complementing the training provided through webinars, Plant Materials Program staff collaborated with NRCS staff, customers, partners, Universities and the public to host field tours and demonstrations for the WY and MT NRCS Field Offices. On April 24, 2024, the PMC hosted a prescribed burn training.

Helping People Help the Land

This enabled NRCS employees to gain hands on experience while assisting PMC staff with management of native grass production fields. In late June, we hosted a tour for Wyoming NRCS and Conservation District Employees during which we discussed plant releases, drill calibration, and field cultural practices. At the end of August, the National Conservation District Employee Association (NCDEA) toured the PMC. Topics of discussion were pollinators, our current studies and trials, MTPMC releases and foundation seed production and cleaning. NCDEA had a three-day conference in Billings and attendees from coast to coast were in attendance.



NCDEA tour, discussing xeriscape grass mixes, August 2024.

Plant Materials staff also delivered off-center presentations to further outreach efforts. In June 2024, we presented at the Montana Tribal Delegates meetings. This presentation introduced Tribes and Tribal Conservationists to the Plant Materials Program and resources available to tribes from MTPMC. There is particular interest in growing and distributing [sweetgrass](#) (*Hierochloa odorata*) tillers to tribes. In 2024, we began propagating over 1,000 plugs for [Montana State University](#) [Northern Little River Institute and Sweetgrass Society](#). Another off-center presentation was completed for Grow Wild's Wildflower Festival in Big Sky, Montana, where we discussed the use of water-wise native plants for landscaping and promoting pollinators. Discussion included choosing plant species adapted to your local climate, designing a landscape while considering pollinator insects, site preparation, and seeding native yards. After years in print, our two publications [Creating Native Landscapes in the Northern Great Plains and Rocky Mountains](#) and [Native Plants for Pollinator-Friendly Plantings](#) remain our most popular for distribution to the public and conservation districts.



Discussing native plants and plant materials resources for native plant landscaping and promoting pollinator, July 2024.

Products and Technology Transfer

MTPMC finalized the study report titled [The effect of three different seeding rates and two different seeding times of sixweeks fescue \(*Vulpia octoflora* \[Walter\] Rydb.\) to suppress cheatgrass \(*Bromus tectorum* L.\) in a rangeland setting](#) in 2024. Two sixweeks fescue seeding dates (fall and spring) and three seeding rates (3.0, 4.5, and 6.0 PLS lbs/acre) were tested on cheatgrass infested areas at the MTPMC from 2021 to 2023 to determine if a native annual grass could replace, compete, and/or create a seasonal priority effect. Sixweeks fescue did not establish in either year. Limiting factors could be the germination rates of each species, as cheatgrass has a superior germination rate to sixweeks fescue, too low of sixweeks fescue seeding rate, and overall weed competition. If sixweeks fescue seeding rates were increased and weed competition decreased with spring herbicide application in addition to a fall herbicide application, the results of this study may have favored sixweeks fescue establishment.

Research Activities

One replicated national study and four local trials were initiated or continued for a second year in 2024. MTPMC began the first year of a two-year National Cover Crop study testing seeding dates, rates, and termination timing for hairy vetch, AU Merit variety. Seeding dates were August 15, September 5, and September 27. Seeding rates were 20, 25, 30, 35, and 40 lbs/acre. Plots were irrigated for establishment. All dates and rates produced biomass before first frost and snow, with some August 15 seeding date plots reaching closed canopy. Data will be collected in spring, 2025. A second year of this study will begin in August 2025.



National Hairy Vetch Cover Crop Study, November 2024.



National Seed Yield Trial, November, 2024.

The first year of a three-year National Cover Crop Seed Yield Trial was planted to test hairy vetch (AU Merit variety), winter pea (Wyoming Winter variety), and spring pea (to be seeded in spring 2025). The goals are to evaluate cover crop seed production in alternate areas of the country and to test production and management methods in conditions that closely resemble those of commercial seed production. AU Merit hairy vetch was seeded on August 22. Wyoming winter pea was seeded on September 24th. Both crops were irrigated and emerged to the vegetative stage prior to first frost and snow. Harvest will occur in spring and summer, 2025.

A fall 2023 and spring 2024 Early Successional Species Trial was seeded in two cheatgrass-infested areas at MTPMC. The objective of this trial was to test nine early seral plant releases, species in the process of becoming released, and native species with 10-times the NRCS recommended seeding rate to reduce cheatgrass infestations at MTPMC, without irrigation. Data is currently being analyzed. Initial observations show that ‘Bromar’ mountain brome grass (WAPMC Release), Amethyst Germplasm hoary tansyaster (IDPMC Release), ‘Pryor’ slender wheatgrass (MTPMC Release), and curlycup gumweed (future IDPMC Release) had excellent establishment and reduced cheatgrass germination.



Early Successional Species Trial, August 2024.

Three Pheasants Forever (PF) Pollinator mixes and two Conservation District (CD) Pollinator mixes were tested in one-acre plots in the spring. PF Pollinator mixes are available for producers for pollinator, wildlife, and CRP seeding. Many PF mixes are more diverse than what NRCS plant materials program recommends; we find mixes with 5 – 10 species establish well. Some species in the PF mixes did not perform well in plant materials trials and other revegetation studies in the region. The CD Pollinator mixes used species known to establish well in the area, have 7-8 species with one native species mix and one non-



Pollinator Mix Trial, July, 2024.



2023 Pollinator Mix Trial, June, 2024.

native mix. With seed left over from the mixes, we seeded the trial a second time in the fall in small 20 x 20 foot plots. Data will be collected in summer, 2025; both large and small plots will be evaluated.

We collected second-year data on a Pollinator Mix Trial that was established in 2023 using MTPMC drought-tolerant releases to suppress weeds along field edges. The mix included: Meriwether Germplasm blanketflower, Antelope Germplasm white prairie clover, Stillwater Germplasm prairie coneflower, and ‘Rosana’ western wheatgrass. The mix was planted on June 5, 2023, at four locations at MTPMC. The mix established well at two sites, which were kept growing in the field to collect data for a second year. We collected data in 2024 with analysis to come in 2025.

Seed and Plant Production

In 2024, the MTPMC harvested, cleaned, and distributed seed of 15 Bridger Plant Materials Releases to commercial seed growers, Universities and researchers. Once increased by commercial growers, the seed will be used for conservation practices in Montana, Wyoming, and the northwest for post wildfire restoration, pollinator habitat enhancement, rangeland improvement, CRP renovation, and more. The MTPMC also collected 42 pounds of Ekalaka Germplasm bur oak that was distributed to the [Montana State Conservation Seedling Nursery](#) for seedling establishment and conservation use. The Montana State Nursery 98th annual seedling sale begins January 20, 2025.



Gravity table seed cleaning, August 2024

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