



The Pullman Plant Materials Center 2025 Report of Activities

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This report covers the 90th consecutive year of plant introduction, testing, and propagation at the Pullman Plant Materials Center (WAPMC). The mission of the USDA-NRCS Plant Materials Program is to develop, test, and transfer plant science technologies to meet customer and natural resource concerns. WAPMC achieves our mission through an integrated approach, partnering with NRCS staff, conservation districts, universities, landowners, and other agencies to develop plant products, provide technical information, and conduct training. The WAPMC serves a geographically diverse region, which includes Washington state, parts of eastern Oregon, and northern Idaho. The region comprises a variety of agricultural operations across irrigated and non-irrigated cropland, grassland, forest, and urban and peri-urban areas. WAPMC activities focus on soil health, range and pasture productivity, forage production, agroforestry, and upland wildlife habitat enhancement to build resilience and support producers.



Figure 1: View from the Pullman Plant Materials Center looking east at fields with trials and grass breeding blocks in the peak of summer.

Events

Developing a Palouse Prairie Alliance

Many local groups, universities, tribes, and government agencies are undertaking projects to protect and restore the Palouse Prairie, an endangered ecosystem of perennial bunchgrasses, forbs, and low shrubs between eastern Washington and northern Idaho. In January of 2025, WAPMC hosted an inaugural meeting with members from twenty-five different groups to provide a space for introductions, sharing projects, networking, and discussion. Over 50 people attended and took turns explaining what their organizations are working on, the resources they can share, and the pinch points they are facing. We are working with staff at the USDA Forest Service Rocky Mountain Research Station and the Palouse Land Trust to plan and host a second meeting in January 2026.

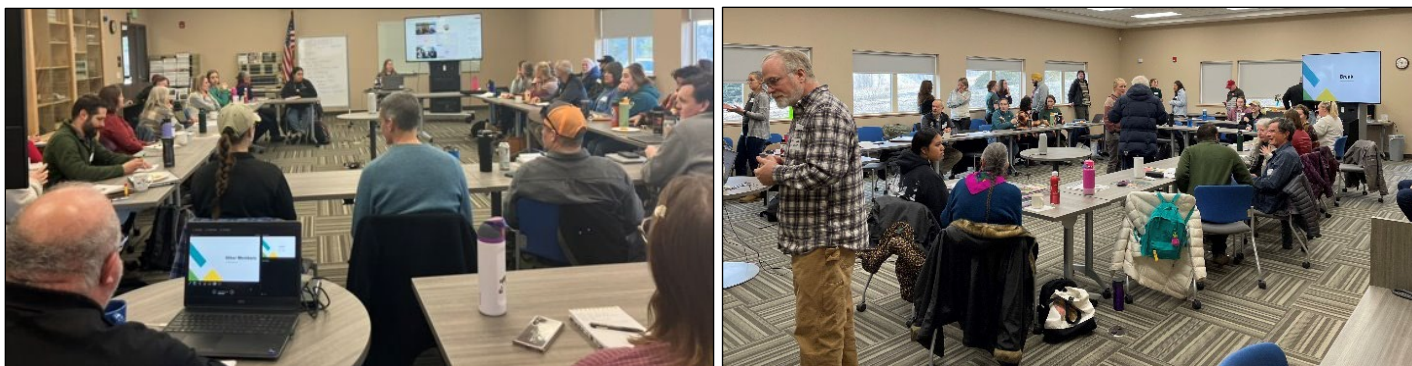


Figure 2: Participants at the Inaugural Palouse Prairie Alliance Meeting at the Pullman PMC.

Poster Presentation at Native Seed Conference

Along with several other Plant Materials Program staff members from across the nation, Jennifer and Steven attended the National Native Seed Conference in Tucson, Arizona. We connected with research, industry, land management, and restoration professionals on topics related to the collection, production, and use of native plant materials. Jennifer presented research from our germination study.

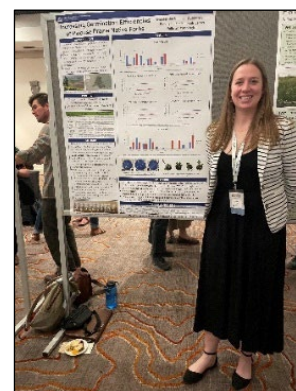


Figure 3: Jennifer presenting research at the Native Seed Conference.

Pollinator Planting with Xerces Society

In April, along with staff from the Xerces Society, we established a pollinator demonstration planting. Five islands of various native forbs and flowering shrubs were installed. Species included: showy milkweed, blue mountain penstemon, Munroe's globemallow, Canada goldenrod, smooth blue aster, low green rabbitbrush, common chokecherry, and golden currant. Since its establishment, we have included this planting in tours and training sessions.



Figure 4: Islands of native forbs planted with the Xerces Society (left and upper right) that is now shown on tours with NRCS and Conservation District staff (bottom right).

Okanogan Field Visits

As part of our continued effort to engage growers, WAPMC staff attended a field tour in north-central Washington in September. Growers are seeking crops to diversify their rotations. We toured grain sorghum and proso millet variety trials. Through these new connections, we initiated a winter pea variety trial with a farmer in the Okanogan region. The plantings will be monitored throughout the season to identify characteristics of a more suitable winter pea for the area.



Figure 5: Participants on a field tour of sorghum variety trials (left) and cover crops used for grazing (right).

Research Activities

Interaction of planting dates on biomass production in fall-planted cover crops.

This year we completed our cover crop timing trial looking at how planting dates effect biomass production. Soil moisture and sufficient growing days before hard frost are key constraints on the adoption of fall cover crops in the Inland Northwest (INW). Regional-specific information linking planting dates to termination dates enables NRCS planners to recommend actions that address producers' conservation needs and maximize cover crop benefits. This trial included 12 cover crop cultivars and two different fall planting dates over four years. Data was collected for soil moisture, emergence, canopy cover, and biomass. This data will provide region-specific planting-date information to optimize cover crop benefits.

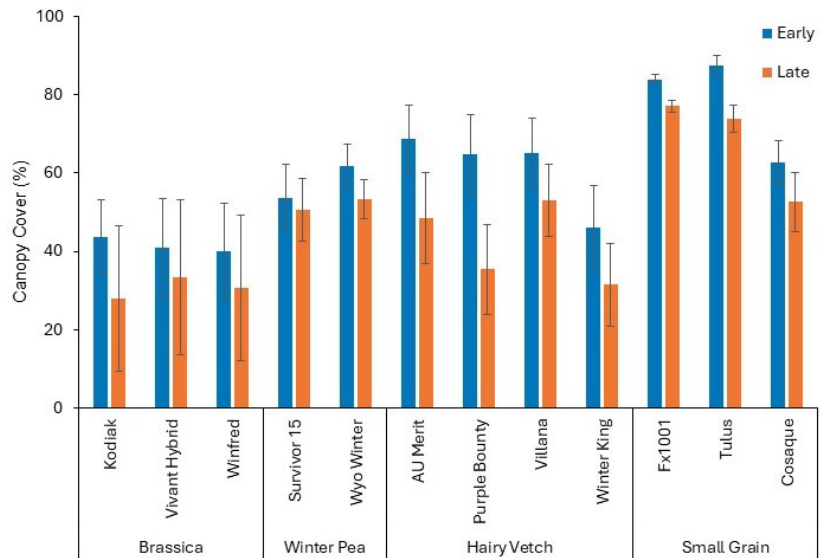


Figure 6: Percent canopy cover after spring green up for cover crop species planted at two different dates.

Examining warm season cover crop species performance in MLRA 9 Palouse and Nez Perce Prairies

There is a potential window for summer cover crops to fill during the wheat/fallow season in eastern Washington. Unfortunately, limited research has been conducted on which cover crop species and mixes perform the best in this region. This fall, WAPMC completed a three-year variety trial of several warm season cover crop species. We evaluated 30 cover crop cultivars for emergence, phenology, water-use efficiency, canopy cover, and biomass. Canopy coverage and emergence seem to be the primary drivers of warm season cover crop success. Overall, millet species performed well in our trials. A surprise from this work is how well forage soybeans performed in our dryland location. This study provides us with valuable data to test mix combinations and will also provide planners with guidance on selecting and managing warm season cover crops. We are interested in extending these variety trials into new MLRAs throughout our service area.

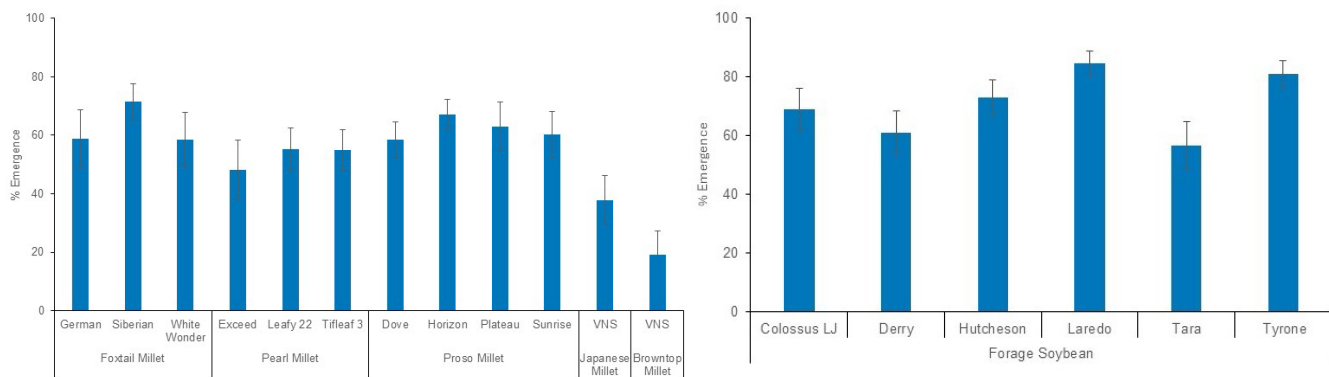


Figure 7: Percent emergence at 15 days after planting (DAP) for all millet (left) and soybean (right) species and cultivars evaluated in the warm season cover crop study.

Palouse Prairie Natives Germination Study

Numerous native species exhibit physiological and/or physical dormancy that inhibit germination until the appropriate ambient environmental conditions are met. Requirements to break dormancy in some native species can be lengthy and complex. Therefore, WAPMC conducted a study to see if we can improve germination efficiency for several Palouse Prairie native forb species. We evaluated each species using three propagation protocol treatments: 1) the standard protocol (control) specific to each species, 2) a 10-day oxygenated water treatment, and 3) a 30-day cold/moist stratification followed by a 10-day oxygenated water treatment. We found that the standard protocol provided the best outcome for *Balsamorhiza sagittata* (BASA) while oxygenated water increased germination and efficiency of *Collomia grandiflora* (COGR4). Additionally, a combination of cold-moist stratification and oxygenated water effectively reduced pre-treatment requirements from 90 days to 40 days in *Eriogonum heracleoides* (ERHE2) and *Wyethia*

	Treatment	Total Days	# Germinated	# Survived	% Survival
BASA	Control	142	123	14	16.54
	Treatment 1	58	17	4	41.67
	Treatment 2	88	62	7	9.98
COGR4	Control	72	96	57	67.56
	Treatment 1	58	134	61	42.10
	Treatment 2	N/A	N/A	N/A	N/A
ERHE2	Control	148	118	41	28.00
	Treatment 1	58	19	7	32.20
	Treatment 2	88	81	34	41.90
PEPR3	Control	148	0	0	0.00
	Treatment 1	58	3	1	16.67
	Treatment 2	88	0	0	0.00
POGR9	Control	148	6	0	0.00
	Treatment 1	58	5	2	16.67
	Treatment 2	88	0	0	0.00
WYAM	Control	148	29	24	34.7
	Treatment 1	58	18	10	76.00
	Treatment 2	88	57	33	57.00

Figure 8: Table showing how different treatments influenced propagation factors to determine propagation efficiency. Total number of days include the days of stratification used in the Control and Treatment 2. Numbers in bold type show an increase over other treatments.

amplexicaulis (WYAM). Improving several key plant propagation protocols can increase production efficiencies and the commercial availability of native seeds and plants.

Legume Cover Crop Advanced Line Trial Study

This year, we continued to participate in the Cover Crop Breeding Network, a partnership among USDA-NRCS Plant Material Centers, USDA-ARS, and several universities, evaluating advanced lines of hairy vetch and winter pea. The objective of the project is to improve cover crop performance through germplasm screening and selection. We specifically look at emergence, vigor, survival, biomass, and seed yield for each line. These trials have identified new selections of legume cover crop varieties best suited to local conditions and will provide growers with more options that benefit their farming operations.



Figure 9: Planting the fall timing trial (left), a view of the warm season cover crop trial (middle) and harvesting winter peas (right).

Trainings:

WAPMC hosted three training courses for NRCS Field Staff this year:

- CP2 Training, June 2025
- Agronomy 101, July 2025
- Soil Health and Sustainability, September 2025



Figure 10: NRCS and District staff learning about soil sampling (left) and how to operate tillage equipment (right) during the Agronomy 101 training hosted at the Pullman PMC.

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