



PLANT MATERIALS TODAY

A Quarterly Newsletter of the Montana-Wyoming Plant Materials Program

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This is a quarterly field office newsletter to transfer plant materials technology, services, and needs. The plant materials personnel will be featuring short articles on project results, new cultivar releases and establishment techniques, seed collection, and field planting needs, etc. All offices are encouraged to submit articles about plant material-related activities relative to plant performance, adaptation, cultural and management techniques, etc. Direct inquiries to USDA NRCS, Plant Materials Center, RR2 Box1189, Bridger, MT 59014, Phone 406-662-3579, Fax 406-662-3428; or Larry Holzworth, Plant Materials Specialist, USDA NRCS Montana State Office, Federal Bldg., Rm 443, 10 East Babcock Street, Bozeman, MT 59715-4704, Phone 406-587-6838, Fax 406-587-6761.

2002 Seed Collection Reminder

The Plant Materials (PM) Program is requesting seed collections of four species in Montana and Wyoming. NRCS Field Office personnel, and other interested collectors, are being called upon to participate in the 2002 collection of fuzzytongue penstemon *Penstemon eriantherus* ssp. *eriantherus* PEERE, silverleaf phacelia *Phacelia hastata* PHHA, scarlet globemallow *Sphaeralcea coccinea* SPCO, and American vetch *Vicia americana* VIAM. Seed collections of the fuzzytongue penstemon are being requested as part of ongoing evaluations in the DATC project. The annual collection bulletin was sent electronically to all Wyoming field offices in May and Montana field offices received a hard-copy in the National Plant Materials Manual 190-V, Third Edition -- Supplement No. MT1. The bulletins contained an attachment outlining the areas of each state that still need species representation (see table below). Also included with the bulletin was a detailed description of each species to aid in identification, potential site location, bloom period, and approximate time of seed maturity. For more information call Larry Holzworth.

<u>State</u>	<u>Natural Resource Area</u>	<u>Species Code</u>
Montana	Columbia Basin	PEERE SPCO VIAM
	Headwaters	PEERE SPCO VIAM
	Upper Missouri	PEERE PHHA VIAM
	Lower Missouri	PEERE PHHA VIAM
	Lower Yellowstone	PEERE SPCO VIAM

Wyoming	Northern	PEERE PHHA SPCO VIAM
	Southwestern	PHHA VIAM
	Southeastern	PHHA

Demonstration Plantings

Coles Farm A Plant Materials Demonstration planting was successfully installed in Stillwater County. The planting was done on David Coles' farm about 3 miles south of Molt, MT. David had planned on sodbusting and farming a native pasture, but was concerned about the possibility of the area becoming saline. After soils tests were done, it was recommended that he not sodbust. One option was to do a demonstration planting to compare a variety of species including: switchgrass, big bluestem, little bluestem, sideoats grama, western wheatgrass, thickspike wheatgrass, green needlegrass, bluebunch wheatgrass, basin wildrye, winterfat, Gardner's saltbush, fourwing saltbush, slender white prairieclover, pubescent wheatgrass, Russian wildrye, Siberian wheatgrass, crested wheatgrass, and a variety of mixes. The native species were cross-seeded with two drill widths each of fourwing saltbush, Canada milkvetch, and slender white prairieclover. The introduced species were cross-seeded with two drill widths each alfalfa, sainfoin, and cicer milkvetch. The planting was done with the Bridger Plant Materials Center's Truax drill. This project covers about 3.4 acres and consisted of 33 plots that are 60' x 60'. Thanks go to Larry Holzworth, Susan Winslow, and Mark Majerus for supplying the seed, equipment, and labor to do the seeding.

Valerie Robertson - Resource Conservationist, Columbus Field Office

Roy School Outdoor Classroom

An outdoor laboratory--the best way to provide hands-on plant appreciation and experience for school kids from kindergarten through high school. That's exactly what the Roy School FFA Chapter did to educate the entire school on the importance of native grasses, legumes, and shrubs in their individual lives. Students in Roy, a rural Montana town of 200, will learn to admire the beauty of an echinacea plant; learn about the importance of bluebunch wheatgrass (the Montana state grass) and warm-season grasses to the native rangelands; study the forage benefits of tame pasture grasses and the value of protein in winterfat for winter grazing; learn about the nitrogen benefit of legumes within plant communities; and understand how plants utilize sunlight to produce food for the animals in our food chain. The FFA prepared a planting site behind the high school and the Bridger Plant Materials Staff planted 30 different plant species using their four-

row plot planter in April 2002. The students took turns riding the drill and learning how the mechanical planter worked to place the seed properly for successful plant establishment. The FFA advisors at Roy and Grass Range will use the laboratory to help teach plant propagation, morphological development, identification, and the value and uses of forage plants. In the future, these two FFA Chapters hope to be top competitors in plant identification, rangeland management, and ranch planning.

Larry Holzworth

Tours and Training

The Plant Materials Program (PM) in Montana and Wyoming hosted activities for several groups in May and June. On May 22, 58 students from the Middle School in Columbus, Montana, received hands-on instructions relating to scientific and technical topics. Students were split into four groups, each rotating through various buildings, where PMC staff members discussed and demonstrated the operation of different instruments and pieces of equipment. The day-long session was geared to conservation and natural resource education. On June 26, 20 members of the Cody Conservation District participated in a tour of the PMC facilities, production fields, and study plots. The group showed particular interest in the Xeriscape grass demonstration area and in the Rocky Mountain juniper and ponderosa pine seed orchards. On June 27, 17 individuals from Montana and Wyoming NRCS State Offices visited the PMC for an introduction and informational session on the importance of maintaining a viable plant materials program. A Field Representative to U.S. Congresswoman Barbara Cubin of Wyoming traveled from Casper to take part in activities. The group was treated to a day-long tour, complete with lunch – provided for a nominal charge by Montana's Gay Copenhagen.

On June 24 and 25, Montana and Wyoming NRCS sent 20, mostly new, employees to the PMC for a 1½ day training session. The mini-session was designed for newer employees who needed an awareness of the Bridger PMC and its technical support to NRCS. The first afternoon started off with a brief introduction and overview of the PM program, a synopsis of the PMC history and the development of the PMC Long Range Plan, and the functions and responsibilities of the PMC and PMS to the field offices. The day concluded after an exciting review of the conservation plant species and cultivars in the PMC Demonstration Area.

The second day kicked off with an extended tour of current PMC projects and studies on herbaceous and woody plant research, seed production and seed cleaning facilities, equipment, and greenhouse and lab operations. At the end of the afternoon, attendees learned about field office responsibilities to the PM program – the identification of resource problems and needs, field plantings and evaluation, seed collections, and promotion of released plants and technologies.

Susan R. Winslow

New Plant Releases

The PMC has added five more species to its list of released cultivars, bringing the conservation plant arsenal to 23. In the third quarter of 2002, one tree, shrub, forb, and two grasses became officially available to the commercial seed industry via the Foundation Seed Programs at Montana State University in Bozeman and the University of Wyoming in Powell.

Hunter Germplasm ponderosa pine—*Pinus ponderosa*

This is a Selected Class release of Rocky Mountain ponderosa pine. It is a native conifer in Montana and Wyoming providing a tall, evergreen component for windbreaks and shelterbelts, as well as year-round protection. This new 200-tree selection, named Hunter Germplasm ponderosa pine, consists of eastside seed sources selected for improved rate of height growth and increased seedling survival. Height growth rates at Bridger of ~2 feet per

year under dryland conditions were measured at 10 years of age--nearly double the rate of growth reported for the species on similar sites. Hunter Germplasm ponderosa pine is currently in production at the Montana Conservation Seedling Nursery at Missoula and is available to commercial nurseries.

Open Range winterfat—*Krascheninnikovia lanata*

This is a Tested Class germplasm release of winterfat. It is a composite of three superior accessions: one from Prairie County, MT (Terry), one from Carbon County, MT (Bridger), and one from Carbon County, WY (Rawlins). This is the first commercial release of this shrub species. Open Range is adapted for use throughout the Northern Great Plains region, including north-central U.S. and south-central Canada. Winterfat retains its leaves throughout the winter, providing quality year-round browse.

Washoe Germplasm basin wildrye—*Leymus cinereus*

This is a Selected class release of basin wildrye. It was originally collected in Deer Lodge County near the defunct Washoe smelter stack south of Anaconda, Montana. Fallout from past copper smelting emissions has elevated heavy metal levels and decreased soil pH in the area. At the collection site arsenic, cadmium, copper, lead, and zinc ranged from moderately to highly phytotoxic. Soil pH ranged from 4.6 to 5.6. Washoe Germplasm had better overall height, vigor, and survival compared to 'Trailhead' and 'Magnar' when tested in low pH and heavy-metal contaminated soil. Basin wildrye has an extensive fibrous root system making it an excellent soil stabilizer. Its tall, robust stature also makes it a good wind barrier.

Old Works Germplasm fuzzytongue penstemon—*Penstemon eriantherus*

This is a Source Identified Class release of fuzzytongue penstemon. It is a native, blue-flowering perennial forb adapted to loamy and sandy soils. It is commonly found in dry, open terrain from prairies into mountains. This selection was collected near the historic Old Works smelter in Deer Lodge County, Montana. It has excellent potential for restoration of dry, open lands and in Xeriscape and rock gardens.

Prospectors Germplasm common snowberry—*Symphoricarpos albus*

This is a Selected Class release of common snowberry. It is an important food, nesting, and cover species for many game and songbirds in the western United States. Bighorn sheep, pronghorn antelope, and deer also browse the foliage and twigs. This selection was collected near the Anaconda Smelter Site near the defunct Washoe Smelter. Prospectors Germplasm was selected for its superior adaptation to moderately acidic and heavy-metal laden soils. This species is an excellent soil stabilizer with its densely branched and rhizomatous root system that often forms dense plant colonies.

New Conservation Horticulture Publication

The Bridger PMC initiated a new electronic newsletter in May titled, *HortNote*. The goal of the periodical is to provide timely technical information on topics related to what we call "conservation horticulture". Although, by strict definition, horticulture is the study of ornamental plants, it really applies to the propagation, establishment, and culture of any plant. There is currently a large nationwide interest in topics related to backyard conservation and, particularly, sustainable horticulture as a conservation tool. This interest includes topics such as low maintenance landscaping, native plant propagation, xeriscaping, Integrated Pest Management for homeowners, and small acreage management. To provide timely technical information in these areas, we'll be publishing *HortNotes* every 1 to 2 months. Readers are encouraged to provide feedback and to respond with comments or questions to be addressed in future editions. The current list serve

is based largely on the Plant Materials Today mailing list, but please let me know at Joe.Scianna@mt.usda.gov if I have missed you or if you would like your name omitted. We have two issues already in circulation, one discussing temporary bareroot plant storage and a second on establishment year watering. Please let me know if you would like either of these back issues. Thanks to all those people sending positive comments to date.

Joe Scianna

Bad Year for Bugs

The continuing drought in the northern plains has created plant stress conditions that are putting trees, shrubs, and herbaceous plants at increased risk of damage or death from insect attack. Insects often infest plants that are first stressed by some other environmental factor(s), and can be the one-two punch that results in mortality.

In Montana this year, there have been a high number of reports of aphids, adelgids, mites, thrips, and even pine bark beetles. Most of these pests are generalist feeders that attack numerous plant species and can multiply at alarming rates. Some aphids are born pregnant and do not require a male to reproduce. They can also produce multiple generations per year. Although a healthy plant can tolerate a fair amount of insect predation, a stressed plant is much less able to fend off a heavy attack.

There are several things that Field Offices can recommend and steps that homeowners can take to minimize the damage from insects and related pests. The best overall strategy is to keep plants healthy. During a drought, plants should be irrigated frequently enough to maintain vigor. Control weeds and use weed barrier and coarse bark mulch to conserve soil moisture. Fall watering is critically important to the health of trees and shrubs growing in the northern plains and Rocky Mountains. Based on a soil analysis, add fertility at a rate necessary to maintain plant vigor. Prune off dead branches, suckers, rubbing limbs, and other non-critical tissue.

In conjunction with maintaining plant health, plant condition should be monitored, monitored, monitored! Follow a founding principle of IPM (Integrated Pest Management) by inspecting plants regularly so that control measures can be implemented early before a serious problem develops. With frequent inspection, subtle

changes in plant condition can be detected and controls applied before a serious decline in health.

If a problem does warrant control, recommend or use the least toxic treatment first. There are an increasing number of environmentally friendly products on the market to control insect and animal pests. Try things like insecticidal soap (salts of fatty acids), summer and dormant oil (paraffinic oil), insect growth regulators, various Bt (*Bacillus thuringiensis*) bacterial products, diatomaceous earth, and even beneficial insects. These products may require multiple applications, but work well when applied correctly.

In some cases, the level of infestation or type of pest will warrant the need for traditional pesticides. When harsher chemicals are needed, consider using a more user-environmentally-friendly delivery system. One such system for trees and large shrubs is micro-injection. At the Bridger PMC, we are currently using tree injection in an attempt to control an outbreak of mountain pine beetle in our Hunter Germplasm ponderosa pine. The beauty of micro-injection is that very small amounts of concentrated chemical are injected into the vascular system of the plant with little exposure of overspray or drift to the user, nontarget beneficials, or animals (especially nesting birds, your family, friends, and neighbors). Injectors generally require a licensed ornamental and turf applicator or arborist to install, but is a viable option for high value crops such as landscape plants in a backyard setting. Consult your local arborist, Community Forester, or County Extension Agent for more information.

Joe Scianna

Newsletter Reminder

The Bridger Plant Materials Center is pleased to announce that our newsletter is now available electronically. Beginning with the April 2002 issue, the newly developed listserve transmitted copies to nearly 600 e-subscribers to private individuals across the US, and to federal and state agencies. Individuals interested in receiving future issues of the newsletter electronically can send an e-mail request to: susan.winslow@mt.usda.gov

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