



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.

Evaluation Forms Due!

Field Planting evaluation forms were sent to Field Offices June 1, 2001. Since the forms were sent out at an appropriate time for field review and plant evaluation, all assigned field plantings should have been evaluated by now. This is just a friendly reminder to send your evaluations to your discipline leader or area specialist by October 15, 2001, so they can forward copies to me by October 20, 2001.

Horticulture as a Conservation Tool

Although we often think of NRCS and Plant Materials activities in an agricultural context, the growing demand for backyard conservation in urban and suburban settings is changing that perception. Even in rural states like Montana and Wyoming, rapid land development is altering the face of our local landscapes. At Bridger, we've noted these changes and have adjusted our program to meet some of these new challenges. We are increasingly involved with the landscape industry, local garden clubs, the Master Gardener program, the Montana Education Association, schools, and various non-profit groups to demonstrate the importance of horticulture as a conservation tool. One recently completed effort was the development of a booklet titled, *Creating Native Landscapes in the Northern Great Plains and Rocky Mountains*. This project was a cooperative effort between the Montana Association of Conservation Districts, the Lower Musselshell CD and NRCS. This high quality, color brochure is packed with 15 pages of information on creating a low maintenance, water conserving Xeriscape™. Topics such as planning, design, site preparation, plant selection, water conservation, maintenance, and plant protection are discussed. Individual sections provide information on grasses, wildflowers, trees, and shrubs. Although the emphasis of the booklet is on water conserving landscapes, other aspects of sustainable landscaping are discussed as well. Copies are being sent to each Montana NRCS Field Office, Area Office, and RC&D, and to subscribers of this newsletter. Conservation districts will have the opportunity to pick up copies at the annual MACD meeting in Missoula, Montana, and the WACD meeting in Sheridan, Wyoming, November 14 through 16. Additional copies are available through the Montana NRCS Public Affairs Office, your local Conservation District, and the PMC.

Joe Scianna

Why Won't That Darn Seed Grow?

Have you ever tried to start seed in a pot or sow it directly in your garden—only to have little or no success? Chances are there are a few tricks of nature you were unaware of that trigger and increase seed germination. It just so happens that previously hard-to-come-by species-specific propagation information is now available on a new website developed by the folks at the *Native Plant Journal* and the University of Idaho. Creation of a "Native Plant Network" <http://www.nativeplantnetwork.org> has been a 2-year joint effort of contributors from across the United States—including NRCS Plant Materials Centers, U.S. Forest Service Nurseries, the National Park Service, University of Idaho, and state and private nurseries. The site provides tips and techniques, from start to finish, on how to successfully propagate plants that are not readily available on the commercial market.

For example, the Bridger PMC contributed propagation protocols on native grasses, forbs, shrubs, and trees associated with the Yellowstone and Glacier National Park cooperative work agreements. Specifically reported is technology developed and tested for field-produced seed and greenhouse-produced plants. Each protocol may contain such vital ingredients as common and scientific name, geographic distribution, timing of wildland collection, pre-treatment and site preparation, processing and conditioning, yields, lengths of different growth phases, optimum storage conditions, seed longevity, and much more. If you're looking for a wealth of data (almost 900 protocols to date!) accessible at a fingertip, be sure and check out this terrific webpage.

Susan R. Winslow

Review of CRP Native Grass, Forb & Shrub Establishment

Bob Logar, State Staff Forester, and I evaluated 22 CP-2, CP-10, CP-15, and CP-25 plantings on 15 producers, consisting of native grasses (warm & cool-season), forbs, legumes, and shrubs in six Montana counties June 4 through 7, 2001. The purpose of the review was to ascertain whether current Montana NRCS Technical Guide recommendations are valid when establishing diverse native plant communities. Our observations tested the technical accuracy of the Technical Guide vegetative specifications. An evaluation outline was developed to document location, producer, soils, rainfall, site preparation, planting date & method, seeding rate, weed infestation, plant health, and treatment response observations. The plantings were selected by FO personnel to sample site preparation and planting techniques to compare the results of establishing native species mixed seedings. Area specialists and FO personnel accompanied us to each site and assisted with the qualitative evaluations. The following is a synopsis of our observations and recommendations.

- Winterfat and four-wing saltbush can be successfully established from seed within grass and forb mixtures; **all other woody species must be seeded in separate rows.**
- Optimum Lewis flax seeding rate is .05 pls lbs/acre.
- At the .5 pls lb/acre rate alfalfa is competitive with warm and cool-season grasses; it should be established in alternate rows or the rate reduced to .1 pls lbs/acre in a mixture.

- Currant, rose, chokecherry, and snowberry was volunteering on some sites.
- Cheatgrass and wild oats infestations result in poor stands; they need to be controlled during site preparation and the CRP mixture should be spring planted following a non-selective herbicide application.
- CRP plantings should be delayed after a small grain crop to store two feet of soil moisture for successful weed control and stand establishment.
- Cereal grain chaff windrows should be spread to eliminate toxicity, reduce volunteer grain competition and provide for good seed soil contact.
- No Woods' rose plants were germinated or establishing from seed; it requires a 1-2 year cool-warm-cool stratification prior to germination.
- Broadleaf summer annual weeds in new seedings have little impact on stand establishment. However, weeds should be clipped or shredded to prevent re-seeding or nuisance to neighbors.
- Sainfoin is an excellent alternative to alfalfa because it is less competitive and more compatible to the slow establishing native species than alfalfa.
- Enhancement within existing crested wheatgrass stands requires burning or haying, multiple non-selective herbicide applications and tillage, to germinate accumulated seed banks for crested wheatgrass control, provide for residue reduction for good seed:soil contact, and maximize soil moisture storage.
- Haying and intensive grazing of well established CRP stands improves plant vigor and health.
- Side-oats grama and switchgrass can be successfully established in mixtures with cool season grasses. Bluestems require an alternate row culture for successful establishment and persistence.
- Noxious weeds need to be controlled prior to planting and within established stands.
- Woody seedling transplant locations should be documented on plan map for future reference.
- Encourage seedling shrub transplants and weed barrier on small acreages of CP-25 signups, i.e. 10 acres, to promote better seedling survival and establishment.

Larry K. Holzworth

Enhancing with Shrubs

Until recently, seed mixtures on CRP, wildlife plantings, and rangeland seedings have consisted primarily of grasses, with a couple of forbs and maybe a shrub thrown in to add diversity. Seed availability has been, and continues to be, the main reason why shrubs are limited in revegetation mixtures. The primary low-growing shrubs (often referred to as half-shrubs) that lend themselves to planting in a seed mixture include four-wing saltbush, Gardner saltbush, and winterfat. All three of these shrubs are evergreen, retaining most of their leaves throughout the winter.

In a forage quality study in the Red Desert of Wyoming, the early June crude protein of Gardner saltbush was found to be about 11%, winterfat was at 18%, and four-wing saltbush at 23%. The September through February crude protein maintained at 7-8% for winterfat and 8-9% for four-wing saltbush. These shrubs offer excellent fall and winter forage for all classes of livestock and wildlife.

'Wytana' four-wing saltbush (originally collected in Musselshell County) is a commercially available cultivar. Wytana actually is not a true four-wing saltbush, but rather a naturally occurring hybrid between four-wing and Gardner saltbush. 'Rincon' (New Mexico) and 'Marana' (California) are releases of the true four-wing saltbush types, but are not adapted to northern latitudes. The Bridger PMC and the Aberdeen PMC are in the process of making releases of winterfat. The name has changed, but the plant remains the same. For those of us educated in the 60's and 70's, this species carried the scientific name of *Eurotia lanata*, only to be changed to *Ceratoides lanata*, but now is burdened with *Krascheninnikovia lanata*. The variety 'Hatch' is of southern Utah origin and doesn't particularly like living up north. The Bridger PMC may release a winterfat in 2002, depending on how good of seed harvest was this year. This release is a composite of superior collections from near Terry and Bridger, Montana, and Rawlins, Wyoming. Plantings in Montana, Wyoming, Utah, Idaho, and Washington have exhibited good establishment and survival. The seed of winterfat consists of two folded cotyledons encapsulated in a thin membrane. Once hydrated the seed germinates rapidly, but because of this thin seed coating the seed viability is short-lived. A recent germination study at the Bridger PMC exhibited the following germination rates: 1 year old (98%), 2 year (98%), 3 year (14%), 4 year old (0%), and 5 year old (0%). The moral of the story—buy current seed.

From our collection and testing efforts in the Bighorn Basin and Red Desert of Wyoming, the Bridger PMC is also planning a release of Gardner saltbush. This particular accession originated in Washakie County, Wyoming, between Worland and Ten Sleep. These three shrubs show the most potential for use in native mixes, but at the present time most of the available seed is from wildland collections. Be patient—help is on the way. Within the next few years all three of these species should be out to commercial growers.

Joe Scianna

Sustainability Fair 2001

The Bridger PMC and the Deer Lodge Vally Conservation District teamed up on August 25 to participate in the Second Annual Sustainability Fair in Livingston, Montana. The day-long Saturday event, sponsored by the Corporation for the Northern Rockies, promoted the three sustainability concepts of ecological integrity, economic prosperity, and community well-being under the leafy confines of Rotary Park. Plants, informational handouts, and technical advice was dispensed to the backdrop of the Regional Plant Materials Center poster. The majority of the customers, in the throes of experiencing a 3-year drought, were thirsty for any and all information on low maintenance lawngresses. Throughout the day, people explored a wide range of offerings related to energy and building technology, recycling, transportation, health and household, community and safety, gardens and landscapes, and land management issues. Children's activities provided families the chance to stay longer, as parents mingled back and forth between exhibits, speakers, entertainment, and food. Next year's event is likely to be bigger and better in response to the ever-increasing demand on a limited reserve of natural resources by the world's population.

Susan R. Winslow

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