

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.

Preview of Upcoming PM Activities

February

- 1 - First Call for MT and WY Field Planting Requests
- 16-21 - SRM Annual Mtg in Rapid City
- 18 - **Final Deadline for MT Field Planting Requests**
- 26-27 - Colorado Advisory Committee Mtg in Lakewood

March

- 4-5 - Montana PM State Committee Mtg in Bozeman
- 4-5 - Wyoming Rare Plant Workshop in Riverton
- 10-14 - Regional PM Mtg in Rapid City
- 14 - **Final Deadline for WY Field Planting Requests**

April

- 1 & 2 - Wyoming PM State Committee Mtg in Casper
- 17 - U of WY County Extension Agent Annual Conference in Cody

May

- 5-7 - Native Plants as Minor Crops Seminar in Richland, Wa
- 19-22 - ARS/NRCS/USFS Coordinating Committee Annual Mtg @ PMC
- 29 - Jeff Vonk, Reg. Con., tentative visit to PMC

June

- 6-22 - International Grassland Congress in Winnipeg & Saskatoon, Canada
- 17 - Forages Field Day in Mocassin
- 18 - MT Range Days Tour @ PMC
- 22 - Post International Grassland Congress Tour @ PMC
- 27-29 - Montana Native Plant Society Annual Mtg in Glendive @ Makoshika State Park

July

- 7-9 - Soda Lake Field Planting Evaluation in Pinedale
- 7-25 - MT & WY PM Work Details @ PMC
- 10-11 - Simm's Field Trial Evaluation in McFadden

- 14-16 - Idaho PM Coordination Mtg in Aberdeen
- Late July - Seed Collection/Plant ID Workshop for Big Sky Team in MT
- Late July - Roadside Revegetation Consultation in Glacier & Yellowstone National Parks
- Late July - Western Regional Coordinating Committee Annual Mtg in Cooke City

August

- Early August - Seed Collection/Plant ID Workshop for NE WY Team
- Mid August - Outer Mongolia Scientists Tour @ PMC
- 8-22 - Windbreak Technology Workshop in Billings

November

- 12-14 - Society for Ecological Restoration Annual Mtg in Ft. Lauderdale, FL

Quality Improvement Team (QIT)--Future of PMC's

The Plant Materials Program is embarking upon a new era of customer service! After releasing over 400 cultivars for vegetative solutions to conservation problems and developing the technologies for their successful use, the Natural Resources Conservation Service (NRCS) has developed a new blueprint for change and improvement of the Plant Materials Program. It will place greater emphasis on plant science to enhance and improve the environment.

The challenge of providing timely and effective state-of-the-art plant science technology to the Field Offices is the primary responsibility of the PM program. In order to meet the challenge more effectively, changes are being made on how the program is organized and functions, and how it is integrated into agency strategic plans and operation at the state, regional, and national level.

The Plant Materials Program future vision is a result of a Quality Improvement Team (QIT) effort to evaluate plant science activities in NRCS and make pertinent recommendations to improve program operations and quality. Seventeen issues were identified and action items for change will be implemented over time.

Larry Holzworth

Reynolds Joins PMC Team

Hello, I'm Connie Reynolds, the newest member of the team here at the Plant Materials Center in Bridger. I will be responsible for the Acid Project when it is transferred from the Deer Lodge Valley Conservation District to the NRCS. I will also do data entry and assist co-workers with their projects.

Many of you know me when I worked in the Billings and Joliet Field Offices as a Resource Conservationist the past nine years. Before coming back to Montana to work for NRCS, I was as employee at the Agricultural Research Center - Squaw Butte Station, in Burns, Oregon. There I worked as a Research Assistant for 3 years. I actually began my career in research at the Range & Research Station in Miles City. I worked as a Field Aide there for 9 months after graduating from the University of Montana. Yes, U of M graduates with a degree in Range Management do get jobs in the resource field.

Field Planting Reminder

It's time to get out of your comfort zone and explore the possibilities of new plant materials. Yes, you and your customers can get involved in "cutting edge" technology by helping the plant materials program evaluate the performance and adaptation of new plants. Long Range Plans for Field Plantings were sent out in 1993 on 'Goldar' bluebunch wheatgrass, 'Bannock' thickspike wheatgrass, 'Rush' intermediate wheatgrass, and 'Newhy' quackgrass X bluebunch hybrid wheatgrass. Long Range Plans for Field Plantings for Sandberg bluegrass, mountain bromegrass, and switchgrass were forwarded to the field in January 1997. Please review the plans, filed in your National Plant Materials Manual, and try some of these new plants in your area.

Larry Holzworth

Scheetz Accepts Detail

John Scheetz, former Bridger PMC Manager, accepted a 2-year detail to the NRCS National Office, October 12, 1996. He will remain stationed at the Bridger PMC. His title during this detail is National Plant Materials IRM Coordinator. John will work 20% of his time for the Bridger PMC, with responsibility for budget, seed & plant inventory, assistance with procurement, liaison with PMC Board of Managers, property officer, and will continue to serve on

graduate student committees. His duties with the National Office include: serves as webmaster for all Plant Materials Information on the Internet, provides assistance and training to PM personnel in information management, serves as database manager for all national PM databases, provides an interface and contact point with the FOCS effort for PMC's, PMS's and FO employees, and information management tasks associated with identifying and tracking PMC studies, publications, and other assorted PM documents.

Bridger PMC Staff Assignments

The shift in personnel at the PMC required reassignment of Staff duties and responsibilities at the Center. Therefore, it is advisable to direct questions and inquiries to the appropriate team member. The following is a list of areas of expertise and leadership:

1. Mark Majerus, Acting Manager- forages, reclamation, administration, seed production.
2. Joe Scianna, Horticulturist - woody species, native landscaping, greenhouse & lab operations, general plant propagation.
3. Susan Winslow, Agronomist - seed collection, culturally significant plants, rare and endangered plant projects, IEP's & CEPS's.
4. Connie Reynolds, Resource Conservationist (trainee) - Acid Project, field plantings, accessioning, data entry.
5. Lynnel Hoffman, Farm Foreman - field operations, equipment, seed production, weed control.
6. Bruce Thompson, Biological Technician - seed cleaning, seed shipment, field operations.

Wildrye/Legume Grazing Trials

Loren Harper owns and operates a wheat and cattle ranch seven miles east of Sundance, Wyoming. He was in search of a permanent forage that could be established on wheat ground that would provide grazing in late summer and fall. It was recommended by local NRCS and Extension personnel to establish a wildrye-legume trial. In the spring of 1990, with seed from the Bridger PMC and a grass drill from the University of Wyoming, an 18 acre site (Tilford silt-loam 1-6%) was seeded with plots of Russian wildrye, Altai wildrye, mammoth wildrye and basin wildrye, both alone and cross seeded with alfalfa, sainfoin, or cicer milkvetch. The site history and preparation was volunteer wheat hay in 1989, with fall disking, and disking and double packing the following spring prior to seeding. During the establishment year most of the site was sprayed with

Buctryl at the 3 to 4 leaf stage of alfalfa. Untreated portions developed poorer stands because of weed competition. 'Bozoisky-Select' Russian wildrye outperformed 'Vinal' and 'Trailhead' basin wildrye was better than 'Magnar'. Mammoth wildrye did not perform well, especially when it had to compete with alfalfa. 'Prairieland' Altai wildrye filled in between the one foot spaced rows by the third growing season. Alfalfa was very competitive, hindering all grasses during the establishment period, in spite of the low (1.25 lbs/A) seeding rate. This problem could be reduced with wider row spacing. Cicer milkvetch failed to establish well when it had to compete with any of the grasses. Sainfoin established well with mammoth and basin wildrye. When yearling cattle were turned onto the site, it was noted that the grass-legume mixes were preferred over the solid grass stands. Russian wildrye/alfalfa and Altai wildrye/sainfoin were the best combinations for this particular site and the desired grazing system.

Summarized from an article prepared by: Glen Mitchell, Rangeland Management Specialist--Sheridan, WY and Terry Everard, District Conservationist, Sundance, WY

PLANT PROFILE: Rocky Mountain juniper

Our "Plant Profile" column is a new addition to the PMC newsletter featuring technical and practical information on plants with conservation applications. Initially, we will feature plants that are currently under study at Bridger, however, we will be glad to cover any species or cultivar upon request.

This Plant Profile describes a valuable windbreak and shelterbelt species, Rocky Mountain juniper. Rocky Mountain juniper is a drought tolerant, winter hardy, evergreen shrub or small tree. It is found in scattered distribution from Alberta and British Columbia, south to Mexico, generally following the path of the Rocky Mountains through the United States. It tolerates annual precipitation zones as low as 10 to 12 inches, given clean cultivation, but does best in 15 to 18 inch zones. It can grow in USDA Hardiness Zone 3, with average minimum temperatures of -30° to -40°F. It tolerates wide and rapid temperature fluctuations and desiccating winter winds -- two conditions not uncommon in Montana and Wyoming. It

tolerates a wide range of soil types including shallow, stony, poorly developed, and high pH (to 8.5) sites.

If Rocky Mountain juniper has any limiting traits it is a slow rate of growth and irregular shape or form when propagated from seed. A rate of growth of approximately 6 to 10 inches per year can be expected on good sites and as little as 2 inches per year or less on severe sites. An approximate mature height of 10 to 30 feet, depending on local conditions, can be expected, although heights of 50 feet have been reported. These dimensions make Rocky Mountain juniper useful as a medium-size component in a windbreak or shelterbelt. Although largely without serious insect or disease problems, it is an alternate host for cedar apple rust, a potentially serious problem for rosaceous crops, particularly apple trees. In areas where apples are a valuable crop, isolation up to 2 miles is recommended.

In an attempt to overcome these inherent limitations, Bridger entered into a cooperative study to make selections of superior Rocky Mountain juniper and eastern redcedar. A 960-tree study was established at the PMC in 1980 that included 37 seed sources of Rocky Mountain juniper from 6 states and 11 seed sources of eastern redcedar from 4 states. Over time, selections of Rocky Mountain juniper exhibiting superior height growth, form, crown density, winter hardiness, and seedling survival were made. We are currently in the process of releasing a "source-selected" germplasm of Rocky Mountain juniper, the first ever tree species release from Bridger!

A couple of quick cultural notes about Rocky Mountain juniper. This species prefers partial shade as a seedling and will establish better if a sun/wind screen is provided at planting time. Although it survives well from both bareroot and container stock, containerized material offers cooperators more planting flexibility and greater margins of error than bareroot. Also, peruse your service area to see if any other Rocky Mountain junipers are growing there. An absence of this species, in natural or cultivated stands, may indicate unfavorable environmental conditions, such as certain areas in the extreme northeast and southwest corners of Montana. Overall, we think Rocky Mountain juniper offers low maintenance, year round effect, and species diversity.

Joe Scianna

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