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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.

Montana Featured on New Video.

"It's magic."

"Magnificent."

"Inquisitive."

"Beneficial."

"Steadfast and innovative."

These are just a few ways people described the NRCS Plant Materials Program in a new video. *Plant Solutions for Conservation Needs* explains how the Plant Materials Program shares NRCS' rich 70-year history.

The video also includes footage and interviews from Montana. Big Timber rancher Arlene Pile tells how the program helped rehabilitate her land after a wildfire. Larry Holzworth, Plant Materials Specialist, discusses how the program helps farmers and ranchers, and NRCS field offices. Robert Logar, State Staff Forester, and Marieanne Hanser, Supervisor for the Yellowstone Conservation District, share how they've utilized plant materials.

The video, available in both 10-minute and 18-minute versions, also includes colorful footage and interviews from Florida, Louisiana, New Mexico and Oregon.

The video can be used for introducing the plant materials program to new employees or interested clients, staff and conservation district meetings, outside agencies, special interest groups, etc.

The video was distributed to Area Office Range Management Specialist's, Public Affairs and the Bridger Plant Materials Center. Contact these offices for borrowing a copy. Additional copies can be obtained from Larry Holzworth, Plant Materials Specialist.

By Larry Holzworth, Plant Materials Specialist.

Plant Materials Training.

Each summer, the Bridger Plant Materials Center offers a training session for new Montana and Wyoming NRCS employees or other NRCSers that have not yet had an opportunity to visit the PMC during their career.

Participation is strongly correlated to the annual availability of travel and training money. Training sessions are scheduled for late June or early July. The format is a fun-filled, 2 ½ days of hands-on training in the art of conservation using plant materials.

Topics covered include seedbed preparation, seed inoculation, species selection, developing seed mixtures, drill calibration, seed collection, planning and establishment of field plantings, and research on new conservation plants (grasses, forbs, shrubs & trees).

Training sessions were conducted in 2003 and 2004, and will be offered again in 2005. Interested persons should get this training session on their Employee Development Program and let their Area Assistant State Conservationist know of their needs. Sometime during this winter, if the Plant Materials Specialist (Larry Holzworth) is in your area, he will gladly fill you in on how this training session can help you become a better conservationist in the field.

By Mark Majerus, PMC Manager.

Promising Acid-Tolerant Plants.

The Deer Lodge Valley Conservation District, with grant money from the EPA Mine Waste Technology Program and the State of Montana Resource Damages Program, has an ongoing project at the Bridger PMC to collect and evaluate plant materials endogenous to the Upper Clark Fork Basin for their tolerance of low pH and heavy metal laden soils. This project has progressed to the point where three plant releases have been made (Washoe selected class germplasm basin wildrye, Old Works source identified class germplasm fuzzy tongue

penstemon, and Prospectors selected class germplasm common snowberry). There are presently 2 commercial seed producers growing Washoe, and 2 growing Old Works.

Based on the preliminary results of a spring 2003 planting on Stucky Ridge, north of Anaconda, Montana, there are several more species that could potentially be released to the commercial seed industry in the near future. Indigenous collections that are performing well include slender wheatgrass, bluebunch wheatgrass, big bluegrass, western wheatgrass, and silverleaf phacelia. The DLVCD has also established seed increase orchards of some promising shrubs: e.g., Woods' rose, horizontal juniper, and silver buffaloberry. Continued monitoring of research plots will be necessary to document the long-term survival of these potential reclamation species.

By Mark Majerus, PMC Manager.

Get in the Mix.

The PMC will be installing a new Initial Evaluation Planting (IEP) at the beginning of November. The last IEP included all Field Office (FO) seed collections through 1997. NRCS FOs across Montana and Wyoming have submitted seed collections and more than 75 entries may be included in the IEP.

The PMC encourages everyone to participate and to send those seed collections in as soon as possible. The IEP will be conducted for 4 years, so another one won't happen before 2009. Don't miss this opportunity to test your stuff.

By Susan R. Winslow, PMC Agronomist.

Seed Moisture at Harvest

The Bridger PMC has a visiting scientist/professor from the China Agriculture University-Beijing (CAU). Dr. Mao Peisheng arrived early in May and will leave on November 1. Dr. Mao is the Director of the Seed Testing Lab at CAU and is a professor of seed physiology and seed production.

While at the Bridger PMC, Dr. Moa conducted research on determining the optimum timing of seed harvest, correlating seed moisture with harvest readiness. Seed samples were periodically taken from the time that the seed of each species reached the firm dough stage until

the seed was actually harvested. Seed harvested at each stage will be tested for plumpness and viability. Hopefully, the PMC staff will be able to continue this research next year to document between-year variability.

Seed moisture at the time of harvest ranged from 7% in the Stillwater germplasm prairie coneflower to 30% in 'Wytana' 4-wing salt bush, Open Range winterfat, and 'Rimrock' Indian ricegrass.

<u>Species</u>	<u>% Seed Moisture</u>
Stillwater prairie coneflower	7
Bozoisky-Select Russian wildrye	10
Rosana western wheatgrass	13
Trailhead basin wildrye	14
Foothills Canada bluegrass	16
9005439 switchgrass	16
Pryor slender wheatgrass	22
High Plains Sandberg bluegrass	23
Antelope slender white prairieclover	24
Rimrock Indian ricegrass	30
Wytana 4-wing saltbush	30
Open Range winterfat	30

The species that are harvested at a very low seed moisture content are those that do not readily shatter at maturity and often can be direct-harvested. Species such as slender wheatgrass, Indian ricegrass, and Sandberg bluegrass must be swathed early to avoid extensive seed loss because of premature shattering. The winterfat and 4-wing saltbush have late-season seed set and often do not have good drying weather when seed finally matures.

Because of Dr. Moa's diligent inspection of each seed production field, we also have good information on the phenology stages (seedhead emergence, flowering, milk stage, dough stage, etc) of each of these species.

By Mark Majerus, PMC Manager.

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