



# 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.

## Upcoming Attractions

April 11 - Career Fair, Bridger, MT  
April 16 - McCone County CD Demo Planting, Circle, MT  
April 20 - Mine Reclamation Class, Montana Tech, Butte, MT  
April 22-25 - Weed Short Course, Bozeman, MT  
May 9 - Conservation Fair, Kaycee, WY  
May 17 - CSU Wildlife Biology Field Tour @ BPMC  
May 18 - Rocky Boy High School Students @ BPMC  
June 2 - MNPS Artemisia Chapter Tour @ BPMC  
June 12 - BPMC State Conservationist's Advisory Committee Meeting  
June 13 - MT & WY Ecological Staff Tour @ BPMC  
June 14 - WY State Office Staff Tour @ BPMC  
June 18-20 - Montana Range Days, Jordan, MT  
June 21 - CAES Field Day, Moccasin, MT  
June 22-26 - Chinese/Mongolian Delegation in Montana  
June 26 - MSU School of Agriculture Staff @ BPMC  
July 8 - WY Resources Education Day @ BPMC

## Jackpot!

The Development of Acid and Heavy Metal Tolerant Cultivar Project (DATC), along with the Deer Lodge Valley Conservation District (DLVCD) and in cooperation with the Bridger PMC (BPMC), has received funding for four more years. This project, which began in 1995, was previously funded by two successive grants from the Montana Department of Natural Resources and Conservation (DNRC) Reclamation and Development Grant Program. DNRC funding ended July 2000. In October 2000, the project was granted funding from the EPA's Mine Waste Technology Program. In February 2001, additional funding was received from Montana's Upper Clark River Basin Restoration Grant Program. The Atlantic Richfield Company provided supplemental funding to carry the project over from July to October 2000. This new funding will allow important research and development to continue through October 2004. The budget included hiring a much-needed field technician.

Leslie Marty

## New DATC Employee

Hello! My name is Kelly Collins and I was hired on February 12, 2001, as an Agricultural Research Technician. I am an employee of the DLVCD, stationed at the BPMC. I grew up in Nashua, Montana, and attended Northwest College in Powell, Wyoming, where I received an Associate of Science in Range Management. I graduated from the University of Wyoming (UW) in December 2000, with a Bachelor of Science degree in Rangeland Ecology and Watershed Management and a minor in Agroecology. I have worked for the Wyoming Department of Transportation as a Survey Technician for the past four summers and also was employed by the Department of Renewable Resources at UW. I look forward to my time here at the BPMC and am excited about having this opportunity.

Kelly Collins

## BPMC 2000 Seed Production

As a result of a lot of hard work by the resident staff and summer crew, 2000 seed production was a resounding success at the BPMC. Despite continued hot, dry conditions, and an extended harvest period, most everything produced a measureable amount of seed. Herbaceous seed harvest begins in early June with 'Garrison' creeping foxtail, and continues throughout the summer, ending mid September with 'Antelope' slender white prairieclover. Woody seed harvest begins in September with ponderosa pine and ends in December with Rocky Mountain juniper.

Initial seed increase (NRCS plant materials and reimbursable projects) from 35 grass accessions, 7 forbs, 2 legumes, 1 shrub, and 3 trees produced 2,848 lbs (1,292 kgs) of clean seed. Foundation seed production of 10 grasses, 1 legume and 1 tree was 4,040 lbs (1,833 kgs), for a total of 6,888 lbs (3,124 kgs) on inventory at the BPMC.

Susan R. Winslow

## PMC Food Plot Trials

The growing demand for information about wildlife food plots (primarily for pheasants) served as the impetus to establish an annual food plot trial at the PMC during May 2000. This initial trial was designed to provide information about two basic issues:

- Which food plot species are most compatible and productive in simple, two-species mixtures?
- Which cultural treatments are most effective for establishing and reestablishing annual food plots?

Future trials may be established to evaluate more complex food plot seed mixtures as well as wildlife preference for different food plot configurations.

We seeded thirteen species at half the recommended full seeding rate in parallel, 15-foot wide rows and then cross-seeded the same species at a right angle to the first rows. The result was a matrix of 169 -15x30 foot plots with the various combinations of two species each. All plots were flood irrigated once to bring total soil moisture received up to that of an average year. These seed mixture plots were evaluated (subjective rating on a 1 to 9 scale) during September 2000 and January 2001, for the following characteristics:

*Compatibility in a two-species mix*

*Total seed production*

*Wildlife cover value*

*Shattering tendency*

*Lodging resistance*

*Preference by birds*

*Degree of deer depredation*

At the east end of these plots, each of the 13 species was seeded in a monoculture at the full recommended rate. During May 2001, these monoculture seedings will be subjected to three treatments:

1. Complete seedbed preparation and reseeded
2. One pass with a disk or heavy harrow and no reseeded
3. No treatment

During summer 2001, these plots will be evaluated for stand adequacy to serve as food plots next fall and winter.

The thirteen annual species seeded included wheat, oats, barley, millet, sorghum, corn, canary seed, sunflower, safflower, canola, Austrian winter pea, lentil and pinto bean. In addition, we seeded a border around the entire food plot trial using Circle S Seed's (Three Forks, MT seed dealer) food plot mix. This included wheat, barley, sunflower, canola, safflower, sorghum and millet.

Although no statistical data analysis has been completed, I offer the following preliminary observations.

- ✓ If blackbirds are abundant in the area, it is not worth planting sunflowers.
- ✓ White-tailed deer will selectively wipe out the corn.
- ✓ Austrian winter peas, pinto beans, lentils and canary seed did not perform adequately during the hot, dry, windy conditions last summer. They may be excellent under irrigation.
- ✓ Grain sorghum, mixed with proso millet and/or another small grain, makes an excellent food plot. Sorghum produces abundant and persistent seed, resists lodging under snow and provides great cover. Millet or oats/barley/wheat seem quite compatible with sorghum and add to the cover complexity and seed supply. Millet shatters early compared to the others. I highly recommend sorghum as a food plot species wherever it is adapted to produce seed in Montana.
- ✓ Safflower and canola are also fairly compatible with sorghum and could be valuable for adding diversity to the food plot seeding. Safflower may help limit deer depredation if corn is in the mixture.
- ✓ The Circle S Seeds food plot mix ranked as well or better compared to any of the two-species combinations we tested. It provided a diversity of seeds and excellent cover.

Pete Husby

## Reminders on Enhancement & Interseeding

There have been several e-mails, technical notes and biograms on interseeding and enhancement methodologies. This is a reminder that the process is not easy.

Many producers want to minimize herbicide and tillage expenses and interseed the required native mixtures into existing non-native CRP stands. Much of the interseeding is being planned for existing crested wheatgrass (CWG) stands. Research and experience has shown that interseeding has had little or no success unless competition is controlled. Regardless, if you have a thick stand of any grass and/or legume (alfalfa), you need to destroy it in strips, mosaics, blocks or whatever to maintain an adequate sheltered distance to control erosion while attaining the 51% enhancement requirement. Try to select the most favorable landscapes, soils, and moisture regimes to enhance these stands. No one is requiring straight-farmed strips.

The best treatment for destroying the existing vegetation involves using both herbicides and tillage for at least one growing season. Residue must be removed through haying, burning, etc., prior to using herbicides and tillage, so the herbicide can reach the competitive plant's leaf surface and so the residue built up from the idle CRP does not plug tillage equipment. Usually the chemical label suggests at least 4 inches of growth before application to provide an optimum leaf area for effective herbicide coverage and efficacy. Wait a month and tear the stand up with a chisel, sweeps, plow, disk, etc. Fallowing for one season will allow multiple herbicide applications and tillage operations, following rainfall events and green up, to kill existing CRP plants and each successive crop of volunteer seedlings germinated from the seedbank. Obviously, you cannot kill the entire seed bank, but some growers have been successful using a heavy harrow on their CRP to encourage additional seed germination, so they can control the potential seed bank competition as well as the established plant regrowth. These tillage operations also facilitate a full year of moisture storage, since the CWG has mined the soil's moisture and nutrients. Also, these areas will benefit from at least one growing season of tillage to allow CWG root crowns time to biodegrade enough for adequate seedbed preparation for good seed-soil contact.

Several Field Offices have found that a minimum of one year of tillage and herbicides are required for CWG control. In addition, a glyphosate application must be repeated with fall green up and again just prior to planting native species the following spring to minimize weed competition for the emerging seedlings. It is similar to controlling cheatgrass. However, it provides the best opportunity for successfully establishing new and different stands of plant mixtures.

Sorry that there is no quick or easy fixes. Enhancing existing CRP stands will take intensive planning and patience.

Larry Holzworth

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