PLANT MATERIALS TODAY

A newsletter from the USDA-NRCS Montana-Wyoming Plant Materials Program for those Interested in Plants and Conservation

Volume 20 Number 2 **Late Summer 2014**

For more information on Plant Materials or for electronic access to this and other documents, access our web sites, Montana NRCS at http://www.mt.nrcs.usda.gov or National Plant Materials Program http://plant-materials.nrcs.usda.gov/mtpmc/. Direct inquiries to USDA-NRCS, Plant Materials Center, 98 South River Road, Bridger, MT 59014, phone: 406-662-3579, FAX: 855-510-7028

Important Reminders

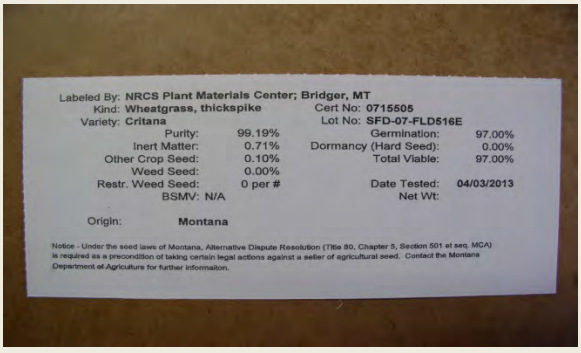
*Field Offices – Consider making 2014 seed collections! The list can be accessed at http://www.nrcs.usda.gov/wps/portal/nrcs/detail/mt/plantsanimals/?cid=nrcs144p2_057495.

Feature Topic

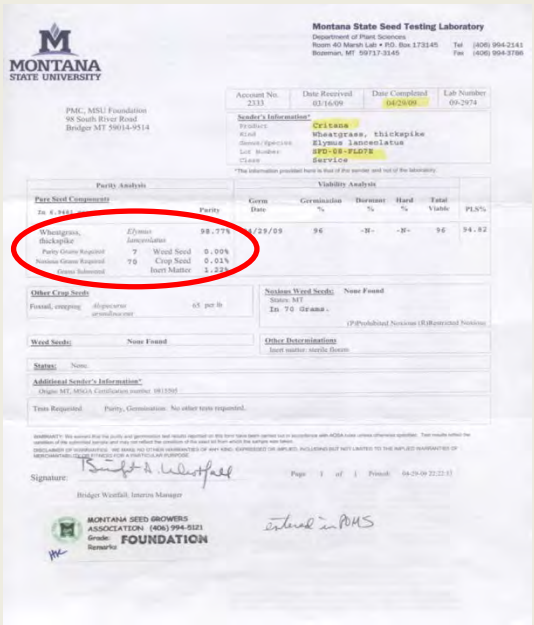
Seed Labels and Analysis Reports - A Primer

The importance of seed labels and lab analysis reports cannot be overstated. The information contained in both documents provides insight into the quality of a seed lot, and the potential for its successful establishment.

Federal Seed Law requires labels with specific information on all commercial seed (example below). This data provides the purchaser invaluable information on the viability of the lot, its cleanliness, and its likeliness to germinate given favorable conditions. When shopping for seed, a standard procedure should be to request a copy of the seed label or analysis report before deciding on a purchase.


Labeled By: NRCS Plant Materials Center; Bridger, MT
Kind: Wheatgrass, thickspike
Variety: Critana
Cert No: 0715505
Lot No: SFD-07-FLD516E
Purity: 99.19%
Inert Matter: 0.71%
Other Crop Seed: 0.10%
Weed Seed: 0.00%
Restr. Weed Seed: 0 per #
BSMV: N/A
Germination: 97.00%
Dormancy (Hard Seed): 0.00%
Total Viable: 97.00%
Date Tested: 04/03/2013
Net Wt:
Origin: Montana
Notice - Under the seed laws of Montana, Alternative Dispute Resolution (Title 80, Chapter 5, Section 501 et seq. MCA) is required as a precondition of taking certain legal actions against a seller of agricultural seed. Contact the Montana Department of Agriculture for further information.

The information on a seed label helps the user in several ways. The percentage Inert Matter indicates how clean the lot is, and the likelihood trash and plant parts may influence seed flow, especially through equipment. Percentage Other Crop Seed and Weed Seed suggest what unwanted plants the user might encounter in the planting in the future.


MONTANA STATE UNIVERSITY
Montana State Seed Testing Laboratory
Department of Plant Sciences
Room 40 Marsh Lab • P.O. Box 173145
Bozeman, MT 59717-3145
Tel (406) 994-2141
Fax (406) 994-3786
PMC, MSU Foundation
98 South River Road
Bridger MT 59014-9514
Account No. 2333
Date Received 03/16/09
Date Completed 04/29/09
Lab Number 09-2974
Sender's Information
Critana
Wheatgrass, thickspike
Elymus lanceolatus
SFD-08-FLD7E
Service
Purity Analysis
Viability Analysis
Germ Date
Germination %
Dormant %
Hard %
Total Viable %
PLS%
Wheatgrass, thickspike
Elymus lanceolatus
98.77%
4/29/09
96
-N-
-N-
96
94.82
Pure Seed Components
Purity Grams Required 7
Noxious Grams Required 70
Grams Submitted
Weed Seed 0.00%
Crop Seed 0.01%
Inert Matter 1.22%
Other Crop Seeds
Found, creeping
65 per lb
Noxious Weed Seeds: None Found
State: MT
In 70 Grams.
(P)Prohibited Noxious (R)Restricted Noxious
Weed Seeds: None Found
Other Determinations
Inert matter: sterile florets
Status: None
Additional Sender's Information
Origin: MT, MSGA Certification number 081595
Tests Requested: Purity, Germination. No other tests requested.
Signature:
Bridger Westfall, Interim Manager
MONTANA SEED GROWERS ASSOCIATION (406) 994-5521
Grade: FOUNDATION
Remarks
Entered in PDMS
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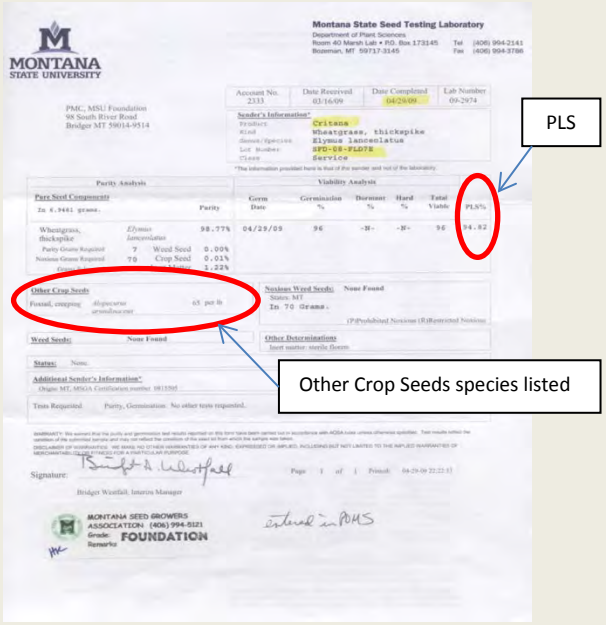
The primary use of the Purity and Germination data is that they can be multiplied together to

calculate the percentage PLS (Pure Live Seed). PLS represents the actual weight, and indirectly number, of live seeds needed or sown. In contrast, "bulk" measurements indicate the total weight of live seeds, plus inert, plus all other seeds, with no correction for seed viability. Sowing 10 pounds of bulk seed doesn't tell us much without a seed label or analysis. PLS does not appear on the seed label, but is often printed on the analysis report.

Interpreting germination data is a bit more involved. On a label, "germination" refers to the number of seeds that germinate within a prescribed number of days, when given conditions favorable for germination. The germination test tells us what is likely to grow if proper environmental conditions are provided. In contrast, tetrazolium (TZ) is a viability test, and tells us how much seed is alive, but not necessarily how much of it will germinate and grow. Most seed labels list germination, since the information is more meaningful to the end user, i.e., what is likely to germinate and grow quickly. The TZ test is used when a rapid approximation of seed viability is needed, or if the species has a long dormancy-breaking requirement, such as many forbs and woody plants. In general, a TZ test produces a slightly higher value than a germination test for a given lot.

When calling a seed vendor, it's important to know they often have multiple lots of the desired species on-hand. By asking for seed analysis reports, you can pick the best lot, often a seed lot with little or no Other Crop Seeds or Weed Seeds (even though some of both are allowed). As mentioned earlier, both a seed tag and an analysis report (below) will tell you the percentages of these seeds, but only the analysis report identifies which species of Other



Crops and Weeds are present. The analysis will often, but not always, have the PLS (Pure Live Seed) calculated, but seed labels do not (you have to multiply the Purity X Germination yourself). If you don't like the quality of the lot, continue shopping. Similarly, if a vendor will not provide the analyses, shop elsewhere. This was the case at the BPMC this spring, when staff opted to purchase a cover crop mix from a vendor willing to provide seed reports for each species in the mix, whereas another vendor would not provide analyses and was passed over. As a facility raising Foundation seed, the last thing we need is more weeds!

Field staff can provide landowners an important service by assisting them with seed report interpretation and guidance on procurement. Similarly, landowners and homeowners can save time and money, as well as establish better conservation plantings, if they know what to look for when buying seed. Need more information? Go to the Montana NRCS or national Plant Materials websites and download any one of several Technical Notes on seed

labels, seed quality, seeding rates, release classifications, seed vendors, and related topics.

Joe Scianna - BPMC Manager/Horticulturist

From the Field

Emerald Ash Borer Discovered in Boulder County, Denver Metro Area.

As most of us know by now, a serious pest of native North American ash species (*Fraxinus*) was introduced into the US in Michigan in about 2002. Since then, emerald ash borer *Agrilus planipennis* (EAB) has spread to 22 states and

Healthy green ash trees

two Canadian providences. In 2013, it was discovered in Boulder County, Colorado, the farthest known western expansion of this pest. Estimates are that it has been there for three to four years.

In Montana, green ash (*Fraxinus pennsylvanica*) is heavily used as a street and landscape tree, and in numerous conservation plantings. Its loss would represent a significant set-back in conservation plantings where a rapidly growing, native, deciduous tree is needed.

Numerous educational and awareness campaigns have been underway in affected states since 2002. With EAB now in the Rocky Mountains, monitoring diligence is essential! One effort by the city of Helena places labels on healthy green ash trees, with contact information should symptoms develop.

Emerald ash borer monitoring label on green ash

There are numerous on-line documents for identifying EAB (it's important to note that other borers impact ash), including Montana Plant Materials Technical Note, MT-48. An excellent document on insecticides for controlling EAB is *Insecticide Options for Protecting Ash Trees from Emerald Ash Borer* (second edition) from the North Central IPM Center.
http://www.emeraldashborer.info/files/multistate_eab_insecticide_fact_sheet.pdf

For more information, contact your local University Extension Office, the Montana Urban and Community Forestry Association, Montana and Wyoming Department of Ag, a commercial arborist, or your local Parks and Recreation Department. For reporting possible outbreaks,

contact the Montana or Wyoming Department of Ag or USDA-APHIS.

Joe Scianna - BPMC Manager/Horticulturist

Outreach Activities

Bridger PMC Continues Outreach with Special K Ranch

The BPMC began an Outreach program with the Special K Ranch in 2013. The Special K Ranch was established in 1986 and is located near Columbus, Montana. Its mission is to provide individuals with developmental disabilities the opportunity to live, learn, and work in an agriculture setting.

Over the past two growing seasons, the BPMC has processed nearly 1,700 dormant hardwood cuttings of nine woody species. Dormant cuttings were collected in March of each year on a variety of sites in Montana and Wyoming. Sources included state record-size "champion" trees, as well as trees along the Jim Bridger Trail in Stillwater County. After careful preparation, the cuttings were placed in the greenhouse propagation bench in a bed of sand under a mist system until root and shoot growth was adequate enough to support transplanting in containers. Some species were ready for transplanting after only five weeks in the bench, whereas others required as long as 12 weeks.

Transplant success was extremely variable and performance from best to worst were narrowleaf cottonwood *Populus angustifolia* (94%), two sources of black cottonwood *Populus balsamifera* ssp. *trichocarpa* (77% and 14%), two sources of yellow willow *Salix lutea* (75% and 66%), two sources of plains cottonwood *Populus deltoides* ssp. *monilifera* (53% and 0%), native pussywillow *Salix* spp. (34%), bigtooth aspen *Populus grandidentata* (22%), peachleaf willow *Salix amygdaloides*

Bridger PMC staff placing stem cuttings in the mist bench

(16%), balsam poplar *Populus balsamifera* (1%), and river birch *Betula nigra* (0%).

Personnel from Special K Ranch periodically picked up plants over the course of the summer from the BPMC, and residents will care for them for one to two more years. At some point in the future, the trees and shrubs will be transplanted in an urban forest or at their original collection site.

Susan R. Winslow - Bridger PMC Agronomist

Technician Tip

Plan Ahead When Using Glyphosate-Tolerant Crops

Crops tolerant of glyphosate are good tools for reducing weeds and improving soil health. At the Bridger PMC, we use glyphosate-tolerant alfalfa as a rest rotation between seed crops.

One thing to consider with glyphosate-tolerant crops, and other types of cover, is the carry-over or residual of the herbicide needed to control the cover. These products can have significant planting restriction intervals. For

most fields sprayed in the fall, spring planting is not an issue. Limitations could arise, however, when removing a glyphosate-resistant crop in the spring or early summer and then wanting to re-plant the fall of the same growing season.

Another consideration is any factor that might prevent uniform growth of the crop prior to spraying for stand removal. This year, for instance, windrows of our harvested crop suppressed growth of the alfalfa under the windrow, and delayed it's emergence and growth. This caused uneven kill of the alfalfa after the first spray, and required a second, later application.

Re-plant intervals can be found on the herbicide label, and are often listed by amount of herbicide applied, and/or number of applications. For more herbicide information, contact your local county Extension Office, University Weed Specialist, county weed supervisor, or an agricultural chemical company representative.

Darren Zentner, Ross Oyler, and Robert Fisher - BPMC Biological Technicians

Seasonal Suggestion

Late Summer Turf Establishment

Did you know, given the proper conditions, mid- to late-August in many areas of Montana and Wyoming is a good time to establish fast growing turf species? Traditional lawns comprised of Kentucky bluegrass, perennial ryegrass, creeping red fescue, and other species can often form a good stand before the first killing frost, and thereby gain a head start on weed competition the next spring. Timing is everything, and most species will need four to six weeks of good growth prior to frost in order to prevent cold weather damage. Supplemental water and light mulching are almost always required. Call your local county Extension office or commercial nursery for more information.

Picture This!

Summer at the Bridger Plant Materials Center

Plant Materials II training at the Bridger Plant Materials Center