

# SELECTING NATIVE INDIGENOUS PLANTS FOR ACID/HEAVY-METAL-IMPACTED SITES<sup>1</sup>

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**Abstract:** In 1995, the Deer Lodge Valley Conservation District in cooperation with the USDA-NRCS Plant Materials Center initiated the collection and evaluation of native indigenous plants adapted to the acid/heavy-metal-impacted soils of the Upper Clarks Fork River Basin. The lack of commercially available plant material able to withstand the severe edaphic conditions of acid/heavy-metal-contaminated soils has created a need for native plants that demonstrate inherent tolerances of these conditions and that are adapted to the intermountain valleys and foothills of western Montana. A total of 145 native seed collections of native indigenous grasses, forbs, shrubs, and trees have been made and are being compared to native cultivar releases and introduced forage and reclamation species.

Initial Evaluation Plantings have been established at five sites (including Stuckey Ridge, Anaconda Flats, Opportunity Ponds, and Mill Creek) in the Anaconda, MT area, as well as greenhouse studies utilizing contaminated soils. In most cases, the indigenous plant materials are performing better than their nonindigenous native counterparts. Many of the commercially available natives were developed for use on semi-arid, high pH soils of eastern Montana and Wyoming. The ultimate goal is to have seed and plants of a variety of adapted plant species commercially available for use by reclamationists in the upper Clarks Fork River watershed.

Thus far, three germplasm releases have been made through the Pre-Varietal release procedure: Washoe Selected class germplasm basin wildrye (*Leymus cinereus*), Old Works Source Identified germplasm fuzzytongue penstemon (*Penstemon eriantherus*), and Prospectors Selected Class germplasm common snowberry (*Symphoricarpos albus*). Based on research plot results, there are several other potential plant releases in the near future: slender wheatgrass (*Elymus trachycaulus*), western wheatgrass (*Pascopyrum smithii*), bluebunch wheatgrass (*Pseudoroegneria spicata*), big bluegrass (*Poa secunda*), silverleaf phacelia (*Phacelia hastata*), woolly cinquefoil (*Potentilla hippiana*), Woods rose (*Rosa woodsii*), silver buffaloberry (*Shepherdia argentea*), western snowberry (*Symphoricarpos occidentalis*), and horizontal juniper (*Juniperus horizontalis*).

**Additional Key Words:** indigenous natives, Pre-Varietal release

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