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Native Plant "Roemer's" to Repopulate the West Coast

Habitat loss has severely depleted the range of Roemer's fescue (*Festuca idahoensis* ssp. *roemeri*), a native grass found exclusively west of the Cascade Mountains in Washington, Oregon, and northwestern California. And its remaining populations are highly fragmented.

"Because it's a native plant there's significant interest in using Roemer's fescue for ecosystem restoration as well as revegetation and erosion control," said Dale Darris, agronomist at the Corvallis Plant Materials Center (PMC) in Corvallis, Oregon. "However, useable seed supplies are absent or controversial because of the lack of information on the species genetic diversity and the importance of that diversity for adaptation and seed transfer across the region."

Roemer's fescue

In order to address these concerns, a collaborative study of Roemer's fescue was initiated in 2001 with the Institute of Applied Ecology and several government agencies including the Bureau of Land Management. The objective was to collect seed from remaining populations. The next step was to grow specimens in a uniformed environment or common garden in order to compare physical traits. Then patterns of variation that relate back to the plant's original environment were identified.

Major outcomes of the work are to (1) establish preliminary seed zones or seed transfer guidelines and (2) make pre-varietal releases of populations specific to these zones for use in restoration. (Other populations may potentially prove valuable for vineyard cover crops, general erosion control, low maintenance turf, or native plant landscaping.)

Wild collections of Roemer's fescue were completed in 2001 and 2002. The common garden study was conducted from 2003 through 2005.

Nearly 2800 individual plant plots were evaluated for such traits as date of emergence, flowering, and maturity date, size, foliage amount, rust disease infection, seed yield, dimensions of certain floral structures, color and other characteristics.

In 2004 seed was harvested from all productive plants. By June 2005 mortality within the nursery reached approximately 25 percent and nearly 40 percent of the remaining individuals did not flower that year. In 2006, data was statistically analyzed to look for patterns of genetic variation that related to the environment. This information coupled with known patterns of geographic distribution and botanical differences were used to draw three zones: the Puget lowlands of Washington State, the Willamette Valley of Oregon, and Siskiyou area of SW Oregon and NW California.

Next, four to nine populations were selected from each of the three zones for combining into three single composite populations. These merged populations will be used to represent each zone for seed increase and eventual release as selected class pre-varieties. At present these "selected" populations are being recollected to provide seed for establishing initial seed increase fields in the fall of 2006 or spring of 2007.

With this project and overall process, the Corvallis PMC hopes to demonstrate a collaborative, ecological and practical approach to managing the genetics, seed movement, and multiplication of a native grass.

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The Rain in Maryland Falls Mainly in the Garden's Plain

With heavy rain fall last month, the National Plant Materials Center (NPMC) christened its rain garden.

In the planning phase for several years now the garden, designed to trap stormwater runoff in a temporary "pond", will feature native plants among the many specimens placed in the large garden.

The NPMC's rain garden is situated at the bottom of a slope just below the campus of four main buildings that constitute the headquarters of the USDA NRCS Plant Materials Program.

The garden will be included among the NPMC's demonstration sites and will be used as a way to show visitors just how to construct a rain garden.

Diagram of rain garden provided by raingarden.org

Situated in Beltsville, Maryland, the site is significant in that rain gardens, or bioretention systems, were first conceived of in 1990 by stormwater specialists in the state of Maryland. Since that time, a number of people, municipalities and organizations have influenced and enhanced the rain garden movement in the United States.

The first rain gardens were our native ecosystems. Before our lands were settled, rain was filtered through soils, roots, and plants in our native forests, wetlands, and meadows. Most of the water that entered our surface waters was cool, clean groundwater. Our wealth of streams, rivers and lakes was naturally clean.

When European settlers cleared the land and built communities, the natural water-cleaning systems were removed. Our streams and rivers became more and more degraded as water ran off the land instead of being taken up by plants, soaking into the soil, and filtered by soils and wetlands.

Rain gardens were invented as a way of imitating the function of these natural filtering systems that development removed.

A rain garden resembles a regular perennial garden in many ways. It is designed with deep-rooted plants that come back year after year; it is pretty to look at; it often has lovely flowers, grasses, trees and shrubs.

The rain garden absorbs and filters rain that would otherwise run off your property and down the storm drain. This stormwater runoff usually comes from an impervious surface that rain cannot soak into, such as a roof or parking lot, or even a lawn.

Rain garden plants create wildlife habitat and attract butterflies, birds and other wildlife. Because they don't need to be fertilized or sprayed, only weeded and mulched, rain gardens can save money. Perhaps best of all, they reduce the amount of lawn you have to maintain. This makes your yard a healthier place for children and pets.

Form more information on how to construct a rain garden go to: http://www.raingardens.org

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