



WEAR TOLERANT VEGETATION

INTERMOUNTAIN WEST PLANTING GUIDE



The U.S. Army Environmental Commands (USAEC) Wear Tolerant Vegetation program provides DoD land managers with vegetation methods and planting guides that address the various needs for military lands: erosion control, invasive weed prevention, fire control, and line of sight maintenance.

Heavily tracked and wheeled vehicles can sometimes cause damage to vegetation on training lands, a necessity for military installations. Damage to vegetation can reduce training realism and the carrying capacity of the land.

To assist land managers in selecting the most appropriate species for reseeding, USAEC put together a guide developed from research and demonstration results at military facilities and from reviewing other guides, selecting information relevant to the military.

TECHNOLOGY DESCRIPTION

The U.S. Army Corps of Engineers Engineer Research and Development Center – Cold Regions Research and Engineering Laboratory (ERDC-CRREL) began this effort under the Strategic Environmental Research and Development Program (SERDP) and the Environmental Security Technology Certification Program (ESTCP). Researchers bred nine native and introduced grasses and one forb germplasm (herbaceous plant that is not a grass) with improved establishment and seedling vigor. In this innovative work, researchers investigated root growth and establishment relationships among various species and, from this knowledge, selected seed mixes of rapidly establishing introduced grasses and desired native grasses. The initial work focused on the intermountain west regions, the most challenging area for growing and maintaining grasses on military lands.

RESULTS

With regard to the Intermountain West region, researchers demonstrated and validated the new plant materials, released ten germplasms, and initiated seed contracts to transition the new plant materials to military facilities and the commercial market. The improved seeding methods have proven successful

For more information

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on eastern and western ranges (Fort Drum, New York; Yakima Training Center, Washington; and Fort Carson, Colorado). The Intermountain West Planting Guide is complete and available on the ERDC-CRREL Web site (<http://www.crrel.usace.army.mil/es/pdfs/ERDC-CRREL-TR-09-9.pdf>) as well as by request from the USAEC Range Technology team. The guide considers military land uses and contains a spread sheet that lists characteristics for each plant species (e.g. height, time to germination, wear tolerant, fire resistance, precipitation range); this will allow use of seed mixtures to meet individual land requirement across installations.

BENEFITS AND IMPLICATIONS

This project provides DoD with more resilient plant species and guidance for re-vegetation methods, both of which will help to increase training opportunities on existing training lands. Within the intermountain west area, researchers identified 42 DoD facilities that encompass more than 1.3 million acres of Army, National Guard Bureau, and Air Force land. The new germplasms are also appropriate for other federal, state, or local agencies, highway right-of-ways, mine spoils, rangelands, and other disturbed areas. There are no additional costs associated with the use of the new materials and establishment methodology: they require no special equipment and the seeds for the new plant materials are unlikely to differ greatly in cost from currently used cultivars. The real cost-benefit lies in (1) choosing seeds based on specific area requirements, (2) the ability to seed less frequently because of increased establishment rates and better resiliency, (3) the decreased need to consider other methods of controlling invasive species, and (4) the reduced downtime on ranges that can lead to cost efficiencies in scheduling training programs.

Subsequent to this work, USAEC is funding ERDC-CRREL to extend concepts learned during the intermountain west effort to other regions of the US: Northeast and Southeast U.S. with separate demonstrations for each area.

