

GERMINATION ECOLOGY OF GREAT BASIN *PENSTEMON* SPECIES

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Adequate seed supplies of locally adapted populations of native species are required for revegetation of degraded sagebrush steppe communities of the Great Basin. Although native forbs are essential elements of these communities, seed availability of most forb species is limited or nonexistent. We are examining intraspecific variability and developing seed production practices and seeding technology for three penstemons of the northern Great Basin. Sand penstemon (*Penstemon acuminatus*), hotrock penstemon (*P. deustus*), and sagebrush penstemon (*P. speciosus*) occupy different habitats and may be valuable for use in postfire seedings, mixed plantings, roadway revegetation, and low water use landscaping. Preliminary work indicated that newly harvested seed of all three species is dormant, exhibiting less than 15% germination under favorable conditions. Germination was improved by moist prechilling for 8 to 12 weeks. The prechilling requirement for sagebrush penstemon, but not hotrock penstemon, was reduced by a liquid smoke treatment. Treatments permitting more rapid and uniform germination are desirable for production of nursery stock and establishment of seed production fields for seed increase or commercial seed production.

DEVELOPMENT OF NATIVE FORB PLANT MATERIALS FOR THE GREAT BASIN

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Select germplasms of common native forb species of the Great Basin will be released following common garden, laboratory and genetic studies. About 15 species are included in this effort.

SEED GERMINATION OF *LOMATIUM GRAYI*, *L. DISSECTUM*, AND *L. TRITERNATUM*

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Lomatium species are among the native forbs considered of high priority for restoration of Great Basin rangelands. Research examining germination requirements of members of this genus is extremely limited and initial efforts indicate seeds are highly dormant. Research will be conducted to examine the natural germination ecology of three species and to develop methods for releasing germination to facilitate nursery production and seeding for establishment of seed production fields.

CULTURAL PRACTICES FOR *LOMATIUM GRAYI*, *L. DISSECTUM*, AND *L. TRITERNATUM* SEED PRODUCTION

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Seed supplies of *Lomatium* species are currently not available for use on Great Basin rangelands. Production of seed fields will require development of appropriate cultural practices including seeding techniques, irrigation requirements, and control of weeds, diseases, and seed predators.