

# Protocol Information

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Family Scientific Name: **Apiaceae**

Family Common Name: **Carrot Family**

Scientific Name: ***Lomatium dissectum* (Nutt.) Mathias & Constance**

Common Name: **Fernleaf biscuitroot**

Species Code: **LODI**

Ecotype: **Intermountain West**

General Distribution: **Fernleaf biscuitroot naturally occurs from British Columbia and Saskatchewan south to California and New Mexico and extends eastward to Wyoming and Colorado.**

Propagation Goal: **Seeds**

Propagation Method: **Seed**

Product Type: **Propagules (seeds, cuttings, poles, etc.)**

Time To Grow: **4 Years**

Target Specifications: **Field produced seed with >95% purity.**

Propagule Collection: **Seed matures in July into August. Wildland seed disarticulates readily and is easily hand collected. Very clean collections can be made by shaking ripened inflorescences over a bag or tarp.**

Propagule Processing: **Minor screening to remove sticks provides excellent purity. Additional cleaning can be done with an air-screen cleaner. There are approximately 99,000 seeds per kg (45,000 seeds per lb).**

Pre-Planting Treatments: **Extended seed stratification is required for successful propagation of fernleaf biscuitroot. Dormant fall seeding is required.**

Growing Area Preparation/

Annual Practices for Perennial Crops: **Seed can be drilled in rows at 82 to 98 PLS/m (25- 30 PLS/ft) or into weed barrier fabric at 45 to 60 cm (18 to 24 in) spacing.**

Establishment Phase: **Above ground growth is slow as young plants invest significant resources to produce a substantial taproot. Plants grow in early spring into summer and go dormant in mid-summer, giving the appearance of mortality. During the first year of establishment, most plants will only produce a few leaves.**

Length of Establishment Phase: **1 yr**

Active Growth Phase: **Most plants will not produce flowers or fruit during the first 3 to 4 years of growth. Good weed control can be achieved through the use of weed barrier fabric and hand roguing. Because fernleaf biscuitroot enters dormancy in early summer, foliar herbicide applications of glyphosate to surrounding weeds are possible after senescence. Highest seed yields have been achieved with the use of supplemental irrigation. Shock and others (2010) at Ontario, Oregon showed a significant positive response to irrigation with 10 and 20 cm (4 and 8 in) additional water. Ontario has a mean annual precipitation of 24 cm (9.5 in), bringing the total received water to approximately 46 cm (18 in) for optimum seed production. Though fernleaf biscuitroot flowers are self-fertile, they still require visitation by pollinators for fertilization to occur. Cane (2007) showed a 60X increase in seed set in the presence of pollinators. Developing a manageable native pollinator for seed production is unlikely. In cultivation, honey bees and sweat bees may suffice.**

Harvesting, Storage and Shipping: **Seed can be harvested in production fields via a vacuum type harvester or flail vac. Seed is cleaned using an air screen cleaner. Purities approximating 100% are achievable with minimal effort. Experimental plots at Ontario, Oregon, using supplemental irrigation produced seed in the fourth season with peak yields of 482 kg/ha (430 lb/ac) (Shock et al. 2010).**

Outplanting performance on typical sites: **Seed can be broadcast or drilled to 0.3 to 0.6 cm (1/8 to 1/4 in) into a well prepared, weed-free seedbed. This species should be seeded in late fall as a dormant planting to allow for natural stratification of the seed over winter. The single species seeding rate is 24 lb/ac. When used in a seeding mixture, adjust the seed rate to the proportion desired in the mix.**

References: **Cane J. 2007. Pollinating bees crucial to farming wildflower seed for U.S. habitat restoration. In: Bees in Agricultural Ecosystems. James, R.R. and T. Pitts-Singer (eds.). Oxford university Press.**

#### **Citation:**

Tilley, Derek; St. John, Loren.; Ogle, Dan.; Shaw, Nancy.; Cane, Jim. 2012. Propagation protocol for production of *Lomatium dissectum* (Nutt.) Mathias & Constance seeds; USDA NRCS - Aberdeen Plant Materials Center, Aberdeen, Idaho. In: Native Plant Network. URL: <http://www.nativeplantnetwork.org> (accessed 4 April 2012). Moscow (ID): University of Idaho, College of Natural Resources, Forest Research Nursery.