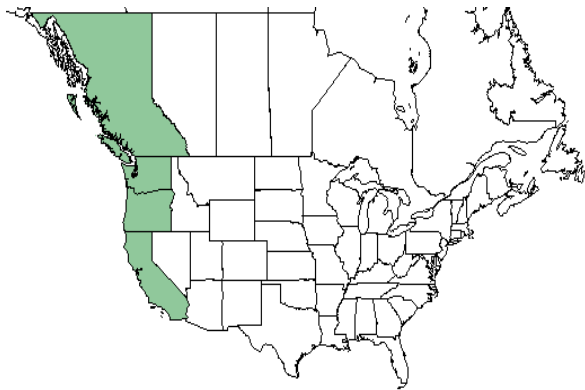


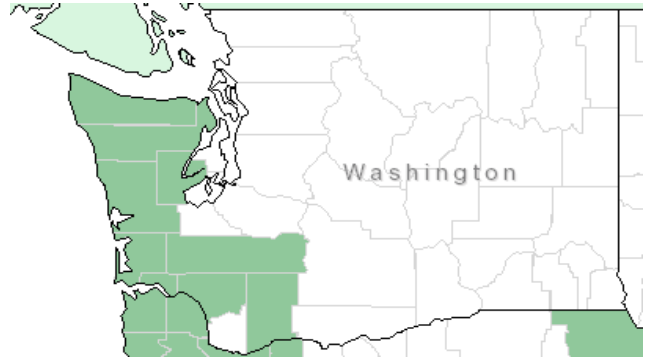
Plant Propagation Protocol for *[Insert Species]*

ESRM 412 – Native Plant Production

Protocol URL: <https://courses.washington.edu/esrm412/protocols/PRSM.pdf>



North American Distribution ¹¹



Washington State Distribution ¹¹

TAXONOMY	
Plant Family	Liliaceae ¹¹
Scientific Name	<i>Proscartes smithii</i> ¹¹
Common Name	largeflower fairybells ¹
Species Scientific Name	
Scientific Name (A full scientific name consists of Genus, epithet, and authority- e.g., <i>Elymus glaucus</i> Buckley. Protocols are prepared for species, which may include multiple varieties, sub-species, and/or cultivars.)	<i>Proscartes</i> D. Don, (Hooker) Utech, Shinwari & Kawano ²
Varieties (those varieties that are recognized in the USDA Plants database; report name and authority for each variety)	
Sub-species (those sub-species that are recognized in the USDA Plants	<i>Disporum smithii</i> (Hook.) Pipe <i>Proscartes menziesii</i> D. Don

database; report name and authority for each sub-species)	<i>Uvularia smithii</i> Hook. 1
Cultivar	
Common Synonym(s) (include full scientific names, including variety or subspecies information)	<i>Prosartes smithii</i> (Hook.) Utech, Shinwari & Kawano <i>Prosartes menziesii</i> D. Don <i>Disporum menziesii</i> (D.Don) G.Nicholson <i>Disporum smithii</i> (Hook.) Piper <i>Uvularia puberula</i> Sm. <i>Uvularia smithii</i> Hook. ¹⁰
Common Name(s)	largeflower fairybells, Smith's Fairy-bells ¹⁰
Species Code (as per USDA Plants database)	PRSM ¹¹
GENERAL INFORMATION	
Geographical range (distribution maps for North America and Washington state)	Olympic NP, Columbia Basin, Mt. Rainier NP, Siskiyou, West Gorge, N Cascades NP ¹
Ecological distribution (ecosystems it occurs in, etc)	Found in moist shady forests near the coast ³
Climate and elevation range	Found in lower elevations. In the Columbia River Gorge they may be found between the elevations of 100'-2500' from Troutdale, OR east to Dog Mt.. ⁴
Local habitat and abundance (may include commonly associated species)	Mixed Evergreen and redwood forest ⁶ Within <i>D. smithii</i> 's much more limited range it is sometimes found along with the similar looking <i>Disporum hookeri</i> – especially along the edges of <i>D. smithii</i> 's local range, since their site requirements are alike. Most commonly associated with <i>Ribes bracteosum</i> , <i>Rubus spectabilis</i> , <i>Athyrium filix-femina</i> , <i>Maianthemum dilatatum</i> , <i>Polystichum munitum</i> , <i>Tiarella trifoliata</i> , <i>Trautvetteria caroliniensis</i> and <i>Trillium ovatum</i> . Other associates include <i>Picea sitchensis</i> , <i>Oplopanax horridus</i> , <i>Sambucus racemosa</i> , <i>Fritillaria lanceolata</i> , <i>Galium triflorum</i> , <i>Mitella</i> sp., <i>Osmorhiza purpurea</i> , <i>Stachys cooleyae</i> , <i>Streptopus amplexifolius</i> , <i>Tolmeia menziesii</i> , <i>Leucolepis menziesii</i> , <i>Plagiomnium insigne</i> , and <i>Stokesiella praelonga</i> . In the immediate riparian (stream edge) zone, also with <i>Rubus parviflorus</i> , <i>Aquilegia formosa</i> , <i>Aruncus dioicus</i> , <i>Boykinia elata</i> , <i>Dicentra formosa</i> ,

	Prenanthes alata and Viola glabella. ⁷
Plant strategy type / successional stage (stress-tolerator, competitor, weedy/colonizer, seral, late successional)	Early successional ¹²
Plant characteristics (life form (shrub, grass, forb), longevity, key characteristics, etc.)	Forb/herb ¹¹
PROPAGATION DETAILS	
Ecotype (this is meant primarily for experimentally derived protocols, and is a description of where the seed that was tested came from)	Unavailable
Propagation Goal (Options: Plants, Cuttings, Seeds, Bulbs, Somatic Embryos, and/or Other Propagules)	Plants
Propagation Method (Options: Seed or Vegetative)	Seed
Product Type (options: Container (plug), Bareroot (field grown), Plug + (container-field grown hybrids, and/or Propagules (seeds, cuttings, poles, etc.))	Unavailable
Stock Type	
Time to Grow (from seeding until plants are ready to be out planted)	Sow seed in autumn and winter over in cold frame. Divide in early spring. ⁵
Target Specifications (size or characteristics of target plants to be produced)	Grow on individual seedlings in small pots until of sufficient size to be potted on or planted out into the open ground. ¹
Propagule Collection Instructions (how, when, etc)	Unavailable
Propagule Processing/Propagule Characteristics (including seed density (# per pound), seed longevity, etc)	Unavailable
Pre-Planting Propagule Treatments (cleaning, storage, dormancy treatments, etc)	<p>Keep the seeds refrigerated until it is time to plant. Ripe seed must be briefly dried (\pm 7 days), cleaned while still moist, placed in ziplocks and refrigerated until planted. ⁸</p> <p>Stratification; cold treatment or vernalization. Seeds of some species need just a couple of weeks, others 3 months. Seeds can be stratified in dampened peat or sand, in a plastic box or bag at 4°C or 5°C in a</p>

	refrigerator. The seeds should not be frozen or in a wet medium. Very small seeds can be sown on the surface of their growing medium, in pots sealed in plastic bags, and kept in the 'fridge. Many vernalized seeds need light to germinate when they are sown in the "Spring". ⁹
Growing Area Preparation / Annual Practices for Perennial Crops (growing media, type and size of containers, etc)	Sow <i>Prosartes smithii</i> seeds about 1mm deep in a Well drained seed sowing mix at about 15°C. ⁹
Establishment Phase Details (from seeding to germination)	<i>Prosartes smithii</i> seeds will usually germinate in 30-180+ days, even under good conditions germination may be erratic. ⁹
Length of Establishment Phase	30-180+ days ⁹
Active Growth Phase (from germination until plants are no longer actively growing)	Unavailable
Length of Active Growth Phase	
Hardening Phase (from end of active growth phase to end of growing season; primarily related to the development of cold-hardiness and preparation for winter)	Unavailable
Length of Hardening Phase	
Harvesting, Storage and Shipping (of seedlings)	Best planted as soon as possible after ripening and dispersal. Ripe seed must be briefly dried (\pm 7 days), cleaned while still moist, placed in ziplocks and refrigerated until planted. ⁸
Length of Storage (of seedlings, between nursery and out planting)	Their long-term storage is not practical. ⁸
Guidelines for Out planting / Performance on Typical Sites (eg, percent survival, height or diameter growth, elapsed time before flowering)	It is most disadvantaged by the low light conditions of dense regeneration to closed-canopy immature forests, but even here persists as scattered, low vigor individuals. In dense stands, the plants would benefit from juvenile spacing or commercial thinning. Partial cutting would very likely promote the cover and vigor ⁷
Other Comments (including collection restrictions or guidelines, if available)	
INFORMATION SOURCES	
References (full citations)	
Other Sources Consulted (but that contained no pertinent information) (full citations)	

Protocol Author (First and last name)	Emma Woods
Date Protocol Created or Updated (MM/DD/YY)	05/13/15

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