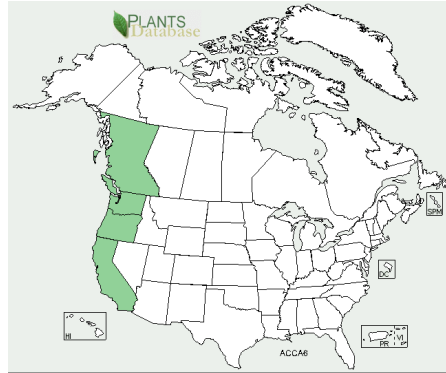


Plant Propagation Protocol for *Achlys californica*
ESRM 412 – Native Plant Production



TAXONOMY	
Family Names	
Family Scientific Name:	Berberidaceae
Family Common Name:	Barberry family
Scientific Names	
Genus:	<i>Achlys</i>
Species:	<i>californica</i>
Species Authority:	I. Fukuda & H.G. Baker
Variety:	
Sub-species:	
Cultivar:	
Authority for Variety/Sub-species:	
Common Synonym(s) (include full scientific names (e.g., <i>Elymus glaucus</i> Buckley), including variety or subspecies information)	California Deer foot
Common Name(s):	Deer's Foot (USDA) Vanilla Leaf (Biek).
Species Code (as per USDA Plants database):	ACCA6
GENERAL INFORMATION	
Geographical range (distribution maps for North America and Washington state)	
Ecological distribution (ecosystems it occurs in, etc):	Douglas-Fir Forest, Yellow Pine Forest, Mixed Evergreen Forest, Redwood Forest. Grows voraciously along the forest floor.
Climate and elevation range	Temperate Climate between 0 and 3937 feet. From Northern California to British Columbia. It is found more commonly in the lower elevations.
Local habitat and abundance; may include commonly associated species	Grows abundantly in the lower regions of Mt. Rainier National Park along with closely related species; <i>Achlys triphylla</i> (Sm.) DC. Dominates the shaded understory of our lowland woods (Kruckeberg). Moist, Shaded sites. Conifer forest (Jepson).
Plant strategy type / successional stage (stress-tolerator, competitor, weedy/colonizer, seral, late successional)	Late successional. Does best on forest floors, shaded by a well-developed forest canopy.
Plant characteristics (life form (shrub, grass,	General: dicot, without leafy aerial stems but sends up single

<p>forb), longevity, key characteristics, etc)</p>	<p>leaves at intervals along the rhizome (Pojar). Duration: Perennial Roots: Rhizomatous and scaly. Often yellow Habit: Herb Leaves: 1-few, basal, long-petioled, 1-ternate, leaflets triangular to fan-shaped, bases tapered. Leaf Complexity: Palmate Leaf Venation: Pinnate Breeding System: Flowers Bisexual INFL: Stiff, slender flower-stalk bearing many flowerlets in a spike (Kruckeburg). Scapose and dense, with lateral flowers usually asexual, terminal ones bisexual. Flower: White, small, without sepals and petals (Pojar). Stamens 3-4 mm 0 Perianth, 8-13 stamens, flap-like anthers which are curled inward, 1 ovule 1.5-2mm (Biek), 1 style, flat and furrowed stigma. Fruit: Red-purple 3-4.5 mm. Achene and furrowed. Size Class: 0-1 ft. (Jepson and Ladybird).</p>
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PROPAGATION DETAILS

<p>Ecotype (this is meant primarily for experimentally derived protocols, and is a description of where the seed that was tested came from):</p>	
<p>Propagation Goal (Options: Plants, Cuttings, Seeds, Bulbs, Somatic Embryos, and/or Other Propagules):</p>	
<p>Propagation Method (Options: Seed or Vegetative):</p>	<p>Seed or collected rhizomes</p>
<p>Product Type (options: Container (plug), Bareroot (field grown), Plug + (container-field grown hybrids, and/or Propagules (seeds, cuttings, poles, etc.))</p>	
<p>Stock Type:</p>	
<p>Time to Grow (from seeding until plants are ready to be outplanted):</p>	
<p>Target Specifications (size or characteristics of target plants to be produced):</p>	<p>Plants reach 30-50 cm tall, with leaves separated on the rootstock by a distance of about 8-10cm (Biek).</p>
<p>Propagule Collection (how, when, etc):</p>	<p>N/A</p>
<p>Propagule Processing/Propagule Characteristics (including seed density (# per pound), seed longevity, etc):</p>	
<p>Pre-Planting Propagule Treatments (cleaning, dormancy treatments, etc):</p>	<p>N/A</p>
<p>Growing Area Preparation / Annual Practices for Perennial Crops (growing media, type and size of containers, etc):</p>	
<p>Establishment Phase (from seeding to germination):</p>	
<p>Length of Establishment Phase:</p>	
<p>Active Growth Phase (from germination until plants are no longer actively growing):</p>	
<p>Length of Active Growth Phase:</p>	
<p>Hardening Phase (from end of active growth</p>	

phase to end of growing season; primarily related to the development of cold-hardiness and preparation for winter):	
Length of Hardening Phase:	
Harvesting, Storage and Shipping (of seedlings):	
Length of Storage (of seedlings, between nursery and outplanting):	
Guidelines for Outplanting / Performance on Typical Sites (eg. percent survival, height or diameter growth, elapsed time before flowering):	
Other Comments (including collection restrictions or guidelines, if available):	Known to be used by the Saanch of Vancouver Island as an insect repellent. The leaves are what gives the plant it's common name, because the scent arises when dried. Species was originally thought to be <i>Achyls tryphilla</i> , however it was later found to be a distinct species (Fukuda).

INFORMATION SOURCES

References (full citations):	<p>Biek, D. 1997. The flora of Mount Rainier National Park, Washington.</p> <p>Burrell, C. Colston., Janet Marinelli, and Bonnie Harper-Lore. <i>Native Alternatives to Invasive Plants</i>. Brooklyn, NY: Brooklyn Botanic Garden, 2007. Print.</p> <p>Calflora -- "Achlys Californica." <i>Calflora - Taxon Report</i>. Web. 15 May 2012. <http://calflora.org/>.</p> <p>Fukuda, Ichiro, and Herbert Baker. "Achlys Californica, (Berberidaceae): A New Species." <i>Taxon: International Journal of Plant Taxonomy, Phylogeny and Evolution</i> 19.3 (1970): 341-44. Print.</p> <p>Hickman, J.C. (ed.). 1993. The Jepson manual. University of California Press, Berkeley.</p> <p>Kruckeberg, Arthur R. <i>Gardening with Native Plants of the Pacific Northwest</i>. Seattle: University of Washington, 1996. Print.</p> <p>Natural Resources Conservation Service. "Plants Profile." <i>USDA.org</i>. United States Department of Agriculture. Web. 13 May 2012.</p> <p>"Native Plant Database." <i>Ladybird Johnson Wildflower Center</i>. University of Texas at Austin. Web. 15 May 2012. <http://www.wildflower.org/plants/result.php?id_plant=ACHY>.</p> <p>Pojar, Jim, A. MacKinnon, and Paul B. Alaback. <i>Plants of the Pacific Northwest Coast: Washington, Oregon, British Columbia & Alaska</i>. Redmond, WA: Lone Pine Pub., 1994. Print.</p>
Other Sources Consulted (but that contained	Rose, Robin, Caryn Chachulski, and Diane Haase. <i>Propagation of</i>

no pertinent information) (full citations):	<p><i>Pacific Northwest Native Plants</i>. 1st ed. Oregon State UP, 1998. Print.</p> <p><i>The New Royal Horticultural Society Dictionary of Gardening</i>. London: Macmillan [u.a., 1992. Print.</p> <p>Sawyer, John O., and Todd Keeler-Wolf. <i>A Manual of California Vegetation</i>. Sacramento, CA: California Native Plant Society, 1995. Print.</p>
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Date Protocol Created or Updated (MM/DD/YY):	May 16, 2012