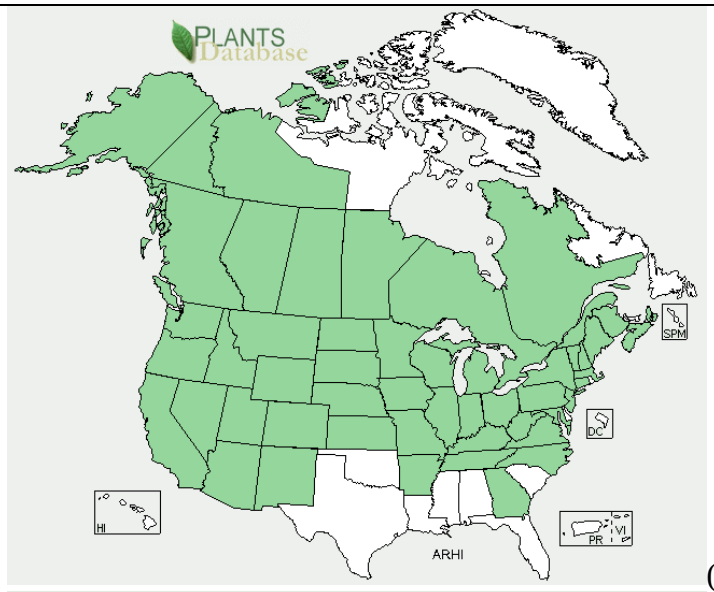
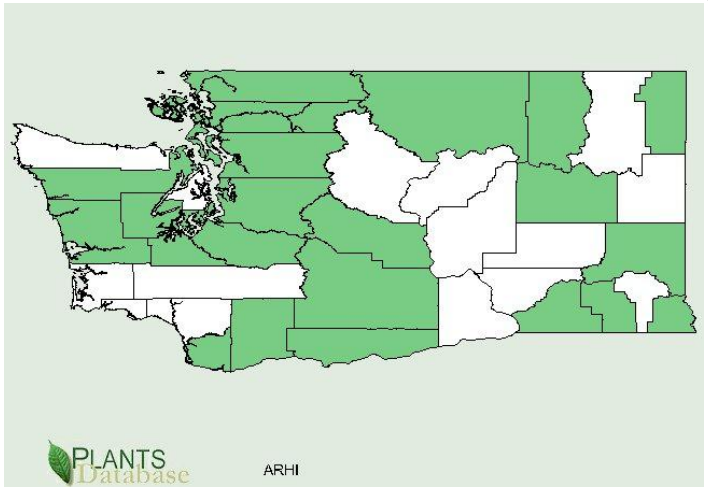
Plant Propagation Protocol for *Arabis hirsuta*
ESRM 412 – Native Plant Production

 (3)

TAXONOMY[2]	
Family Names	
Family Scientific Name:	Brassicaceae
Family Common Name:	Mustard family
Scientific Names	
Genus:	*Arabis L.*
Species:	*Arabis hirsute (L.)*
Species Authority:	
Variety:	• *Arabis hirsuta var. eschscholtziana*[3] • *Arabis hirsuta var. glabrata* • *Arabis hirsuta var. pycnocarpa*
Sub-species:	N/A
Cultivar:	N/A
Authority for Variety/Sub-species:	N/A
Common Synonym(s) (include full scientific names (e.g., *Elymus glaucus* Buckley), including	• *Arabis hirsuta (L.) Scop.* • *Arabis hirsuta var. adpressipilis* • *Arabis hirsuta var. pycnocarpa*

variety or subspecies information)	
Common Name(s):	Hairy rockcress
Species Code (as per USDA Plants database):	ARHI
GENERAL INFORMATION	
Geographical range (distribution maps for North America and Washington state)	 (2)  (2)
Ecological distribution (ecosystems it occurs in, etc):	• Beaches, bluffs, rocky slopes, gravel bars and disturbed sites at low to middle elevations[1]
Climate and elevation range	• Located on moderately moist to dry sites. Climatic zones can vary from less than 18 inches of annual precipitation up to 60 inches in wetter climatic zones.[3] Elevation is from sea level to about 1500 feet.[1]

Local habitat and abundance; may include commonly associated species	• Moist to mesic meadows, streambanks, rocky slopes and disturbed areas in the lowland to alpine zones; frequent in BC in and W of the Coast-Cascade Mountains; N to AK and YT and S to W ID and OR.[4]
Plant strategy type / successional stage (stress-tolerator, competitor, weedy/colonizer, seral, late successional)	• Is either biennial or perennial[1] • Stress-tolerant, drought-resistant[11] ○ In stressful environments, it develops a system of rootstocks that allow it to persist in inhospitable sites.[11] • Displays a weedy tendency, colonizing recent road cuts or animal paths.[10]
Plant characteristics (life form (shrub, grass, forb), longevity, key characteristics, etc)	• Biennial or short-lived perennial herb from a taproot**[1]** • Stems unbranched, to 1 m tall, hairy at base**[1]** Leaves**[1]** • Basal leaves to 8 cm long • Hairy lanced-shaped, often purplish underneath • Stem leaves alternate • 5-15, somewhat lance-shaped, to 12 cm long Flowers**[1]** • White to somewhat pinkish • to 9 mm long • in many-flowered, simple or branched terminal clusters Fruits: **[1]** • Smooth sliques to 8 cm long • Erect to spreading

	 (14)
PROPAGATION DETAILS	
Ecotype (this is meant primarily for experimentally derived protocols, and is a description of where the seed that was tested came from):	Cultivation: Full sun or light shade, and well-drained, rather dry, rocky, or gravely soil.[5]
Propagation Goal (Options: Plants, Cuttings, Seeds, Bulbs, Somatic Embryos, and/or Other Propagules):	
Propagation Method	• For *Arabis*, it is recommended that the seeds are divided in autumn or early spring (after flowering), or detach rooted pieces of mat-form

(Options: Seed or Vegetative):	species. Sow the seeds in autumn, or in spring at 50°F (10°C).[6] When large enough to handle, prink the seedlings out into individual pots and plant them out in the summer.[13] Root stem-tip cuttings in the summer.[6] **Note**: However, this is not specific to the *Arabis hirsuta*. • Soil Requirements: in light (sandy), medium (loamy) and heavy (clay) soils and requires well-drained soil. The plant can also grow in acid, neutral and basic (alkaline) soils.[7,12]
Product Type (options: Container (plug), Bareroot (field grown), Plug + (container-field grown hybrids, and/or Propagules (seeds, cuttings, poles, etc.))	
Stock Type:	
Time to Grow (from seeding until plants are ready to be outplanted):	• Seed germination takes about 2-3 weeks at 21°C[5,14]
Target Specifications (size or characteristics of target plants to be produced):	
Propagule Collection (how, when, etc):	
Propagule Processing/Propagule Characteristics (including seed density	

(# per pound), seed longevity, etc):	
Pre-Planting Propagule Treatments (cleaning, dormancy treatments, etc):	
Growing Area Preparation / Annual Practices for Perennial Crops (growing media, type and size of containers, etc):	• Recommended planting density: 15-18 in (38-45 cm)[2]
Establishment Phase (from seeding to germination):	
Length of Establishment Phase:	
Active Growth Phase (from germination until plants are no longer actively growing):	
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):	
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):	• Collection restrictions or guidelines: allow pods to dry on plant; break open to collect seeds and then properly clean[13]
INFORMATION SOURCES	
References (full citations):	[1] Pojar, Jim and Andy MacKinnon. *Plants of the Pacific Northwest Coast: Washington, Oregon, British Columbia & Alaska.* Vancouver: Lone Line, 1994. [2] USDA Natural Resources Conservation Service, http://plants.usda.gov/ [3] "*Arabis hirsuta*". Burke Museum of National History and Culture.

	http://biology.burke.washington.edu/herbarium/imagecollection.php?Genus=Arabis&Species=hirsuta [4] "*Arabis hirsuta*". E-Flora BC: Electronic Atlas of the Plants of British Columbia http://linnet.geog.ubc.ca/Atlas/Atlas.aspx?sciname=Arabis%20hirsuta [5] USDA Forest Services. *Range Plant Handbook.* Toronto, Ontario: General Publish Company, Ltd, 1988. [6] Toogood, Alan (editor). *American Horticultural Society: Plant Propagation.* New York: DK Publishing, Inc., 1999. [7] Filbert, Marianne, Richter, A., and Robson, Kathleen A. *Encyclopedia of Northwest Native Plants for Gardens and Landscapes*. Portland: Timber Press Inc., 2007. [8] Price, 1997 as cited in Koch, M. 1999. Arabidopsis and Arabis, Plant Biology. Max-Planck-Institute for Chemical Ecology, Tatzendpromenade 1a, D-07745 Jena, Germany [9] Hopkins, M. 1937. Arabis in eastern and central North America. Rhodora 39: 63-98, 106-148. Cited by Division of Natural Areas and Preserves, Ohio Department of Natural Resources [10] Endangered and Threatened Species of the Southeastern United States FWS Region 4; http:/endangered.fws.gov/i/q/saqdg.html [11] Journal of Vegetation Science 4: (2) 195-202. Feb. cited in Oregon Endangered Species website. [12] Sanders. T.W.1926. Popular Hardy Perennials, Collingridge [13] Rice, G. 1988. A Wide Range of Perennial Plants that can be Grown in Britian and How to Grow Them. Volume 2. Thompson and Morgan. [14] "*Arabis hirsuta"* Plant for a Future. http://www.pfaf.org/user/Plant.aspx?LatinName=Arabis+hirsuta
Other Sources Consulted (but that contained no pertinent information) (full citations):	Needs to be updated. (I forgot to note down the books that I researched and didn't have any information.) Sources by previous protocol author that were not valid or good sources: • Chappell, Chris 2000. Puget-Georigia-Willamette Ecoregion Herbaceous Balds and Bluffs. Unpublished data • Backyard Gardener; http://www.backyardgardener.com/pren/pg12.html
Protocol Author (First and last name):	Sherie Tan
Date Protocol Created or Updated (MM/DD/YY):	04/18/2012

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http://www.nativeplantnetwork.org/network/SampleBlankForm.asp