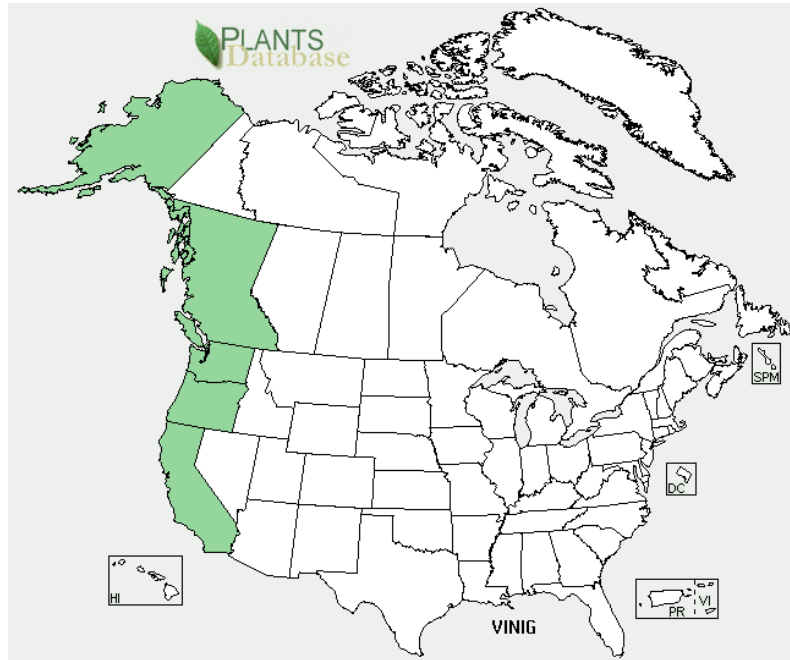
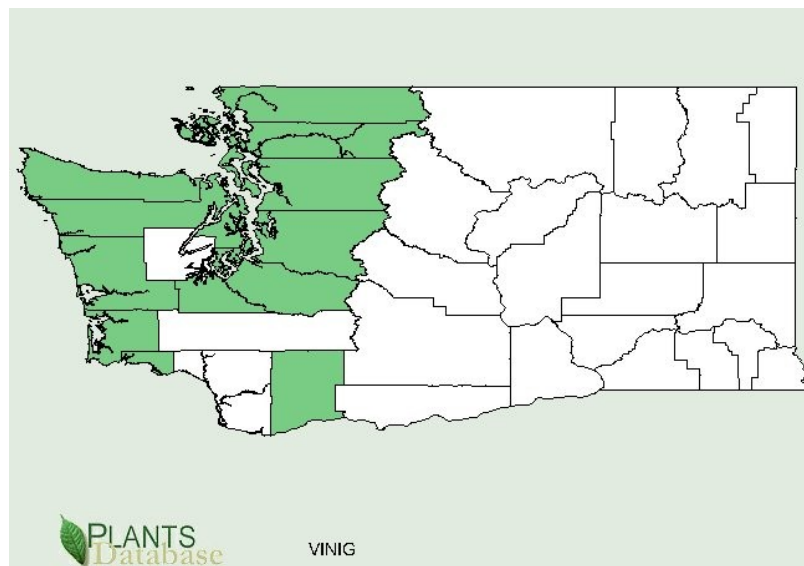


**Plant Propagation Protocol for [*Vicia Nigricans* ssp. *gigantea*]**  
ESRM 412 – Native Plant Production



Map of US / CAN distribution for VINIG from USDA Plants Database [1]



Map of WA state distribution for VINIG from USDA Plants Database [1]

## TAXONOMY

<b>Family Names</b>	
Family Scientific Name:	Fabaceae
Family Common Name:	Pea
<b>Scientific Names</b>	
Genus:	Vicia L.
Species:	Vicia nigricans
Species Authority:	Hook. & Arn.
Variety:	
Sub-species:	<i>gigantea</i>
Cultivar:	
Authority for Variety/Sub-species:	(Hook.) Lassetter & C.R. Gunn
Common Synonym(s) (include full scientific names (e.g., <i>Elymus glaucus</i> Buckley), including variety or subspecies information)	Vicia nigricans (Hook. & Arn.) ssp. gigantea (Hook.) Lassetter & C.R. Gunn. [1]
Common Name(s):	Giant Vetch, Large Vetch
Species Code (as per USDA Plants database):	VINIG
<b>GENERAL INFORMATION</b>	
Geographical range (distribution maps for North America and Washington state)	USA (AK, WA, OR, CA). CAN (BC) [2] See above.
Ecological distribution (ecosystems it occurs in, etc):	Coastal from AK to CA (San Luis Obispo). Inland into Willamette Valley in Oregon. [2] See above.  Ecosystems: Redwood Forest, Mixed Evergreen Forest, Northern Coastal Scrub [9]
Climate and elevation range	Low Elevations [2] - between 0 and 656 feet [9]
Local habitat and abundance; may include	In Washington state, it is found near streams or forest clearings. Abundant. [2]

<p>commonly associated species</p>	<p>Along coastal bluffs in Washington State, <i>Vicia Gigantea</i> is found in association with <i>Calamagrostis nutkaensis</i> (Nootka Reedgrass) and <i>Equisetum telmateia</i> (Giant Horsetail).[7]</p> <p>This association occupies small patches on coastal bluffs, intermixed with shrublands (<i>Gaultheria shallon</i> and <i>Rubus spectabilis</i> being most abundant), forests, and sparsely vegetated cliffs or banks. Surrounding forests fall within the North Pacific Hypermaritime Sitka Spruce Forest ecological system.[7]</p>
<p>Plant strategy type / successional stage (stress-tolerator, competitor, weedy/colonizer, seral, late successional)</p>	<p>In one study of the related species, <i>Vicia Nigricans ssp. Nigricans</i> – a relative only found in the southern hemisphere, the climbing vine was present in areas associated with consistent fire regimes (every few years). This could indicate a preference for high-disturbance and a colonizer strategy in the southern hemisphere’s version of <i>Vicia nigricans</i>. [10] It is uncertain whether this is also true for the northern hemisphere’s <i>Vicia nigricans ssp. gigantea</i>.</p> <p>In a different study of Southern hemisphere <i>Vicia Nigricans ssp. nigricans</i>, the authors demonstrated a significant symbiotic relationship between the climbing vine and two hosts. Depending on the species of the living host, <i>Vicia Nigricans</i> reduced herbivory from insect pests for both itself and the hosts. While it is uncertain whether these same mutualistic associations are found in the Northern hemisphere <i>Vicia Nigricans ssp. gigantea</i>, the study opens up an interesting pathway for research on the VINIG. [11]</p>
<p>Plant characteristics (life form (shrub, grass, forb), longevity, key characteristics, etc)</p>	<p>Succulent, climbing, pubescent to glabrous perennial, the stems 1-2 m. tall, hollow, conspicuously ridged, 3-7 mm. thick. [2] Yields fruits which are legume pods measuring up to 4 centimeters long by 1.5 wide. As they dry they turn black. [4]</p> <p>It is hardy to zone 5. The flowers are hermaphrodite and are pollinated by Insects. VINIG can fix nitrogen. [3]</p>
<p><b>PROPAGATION DETAILS</b></p>	
<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>Tennessee Valley, CA – north of San Francisco. [6]</p>
<p>Propagation Goal</p>	<p>Plants [6]</p>

(Options: Plants, Cuttings, Seeds, Bulbs, Somatic Embryos, and/or Other Propagules):	
Propagation Method (Options: Seed or Vegetative):	Seed [6]
Product Type (options: Container (plug), Bareroot (field grown), Plug + (container-field grown hybrids, and/or Propagules (seeds, cuttings, poles, etc.))	Container – Plug. [6]
Stock Type:	Deepot 40 [6]
Time to Grow (from seeding until plants are ready to be outplanted):	
Target Specifications (size or characteristics of target plants to be produced):	Height: N/A Caliper: N/A Root System: Firm plug in container [6]
Propagule Collection (how, when, etc):	Seeds are collected when mature inflorescences are brown. Seed is light gray at maturity. [6]
Propagule Processing/Propagule Characteristics (including seed density (# per pound), seed longevity, etc):	Storage Conditions: Seeds are kept dry and stored in a refrigerator. Seeds/gram: 14 [6]
Pre-Planting Propagule Treatments	N/A

(cleaning, dormancy treatments, etc):	
Growing Area Preparation / Annual Practices for Perennial Crops (growing media, type and size of containers, etc):	Fully Controlled Greenhouse. Sowing Method: Direct Seeding. Seeds are sown 2 times the diameter to depth in containers filled with standard potting soil. Containers are watered in with an automatic mist and irrigation system. Seeds are sown on June 1st. % Germination: 75% [6]
Establishment Phase (from seeding to germination):	Seeds germinate 21 days after sowing. Seedlings are transplanted 21 days after germination to individual containers 2"x10" tubes (Deepot 40) containing standard potting mix of peat moss, fir bark, perlite, and sand. Transplant Survival averages 75%. [6]
Length of Establishment Phase:	42 days [6]
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):	For other <i>Vicia sp.</i> , plant in-situ in Spring or Autumn in moist, but well drained soils. Genus prefers heavy loam and can succeed in partial to full sun. [8]
Other Comments (including collection restrictions or guidelines, if available):	
<b>INFORMATION SOURCES</b>	
References (full citations):	<p>[1] USDA, NRCS. 2012. The PLANTS Database (<a href="http://plants.usda.gov">http://plants.usda.gov</a>, 13 April 2012).</p> <p>[2] Giblins, D. &amp; Knoke, D. (2011). <i>Vicia nigricans ssp. gigantea</i>. Burke Museum of Nature History and Culture. Available online at <a href="http://biology.burke.washington.edu/herbarium/collections/vascular/search.php">http://biology.burke.washington.edu/herbarium/collections/vascular/search.php</a>. Accessed on 4/17/12.</p> <p>[3] Plants for a Future, Blagdon Cross, Ashwater, Beaworthy, Devon. <i>Vicia gigantea</i>. Plants for a Future Database. (c) 1997-2000. Available: <a href="http://www.pfaf.org/user/Plant.aspx?LatinName=Vicia+gigantea">http://www.pfaf.org/user/Plant.aspx?LatinName=Vicia+gigantea</a></p> <p>[4] Pojar, Jim; Andy MacKinnon (2004). Plants Of The Pacific Northwest Coast: Washington, Oregon, British Columbia &amp; Alaska. Lone Pine Publishing. p. 193.</p> <p>[5] California Flora and Supplement, Munz, P., University of California Press, Berkeley and London, 1973.</p> <p>[6] Young, Betty 2001. Propagation protocol for production of container <i>Vicia nigricans</i> (Hook.) Lassetter &amp; Gunn. <i>gigantea</i> (Hook.) Lassetter &amp; Gunn. plants (Deepot 40); , San Francisco, California. In: Native Plant Network. URL: <a href="http://www.nativeplantnetwork.org">http://www.nativeplantnetwork.org</a> (accessed 17 April 2012). Moscow (ID): University of Idaho, College of Natural Resources, Forest Research Nursery.</p> <p>[7] Chappell, Christopher. "Plant Associations of Balds and Bluffs of Western Washington: Natural Heritage Report 2006-02." Washington Dept. of Natural Resources. Available online at</p>

	<p><a href="http://www.dnr.wa.gov/Publications/amp_nh_balds_bluffs.pdf">http://www.dnr.wa.gov/Publications/amp_nh_balds_bluffs.pdf</a>. Accessed on 4/17/12.</p> <p>[8] Huxley. A. The New RHS Dictionary of Gardening. 1992. P.200.</p> <p>[9] Calflora. Berkeley, CA. <i>Vicia Gigantea</i>. Available Online at <a href="http://www.calflora.org/cgi-bin/species_query.cgi?where-taxon=Vicia+gigantea">http://www.calflora.org/cgi-bin/species_query.cgi?where-taxon=Vicia+gigantea</a>. Accessed on 4/17/12.</p> <p>[10] Raffaele et al. “Synergistic influences of introduced herbivores and fire on vegetation change in northern Patagonia, Argentina.” <i>Journal of Vegetation Science</i> 22 (2011) 59–71.</p> <p>[11] Sasal, Y. and M. Suarez. “Insect herbivory in climber–host shrubs associations: Benefit or detriment.” <i>Austral Ecology</i> (2011) 36, 814–820.</p> <p>[12] Calphotos. <a href="http://calphotos.berkeley.edu/">http://calphotos.berkeley.edu/</a>. Accessed on 4/17/12.</p>
<p>Other Sources Consulted (but that contained no pertinent information) (full citations):</p>	
<p>Protocol Author (First and last name):</p>	<p>Evan Henrich</p>
<p>Date Protocol Created or Updated (MM/DD/YY):</p>	<p>April 17. 2012</p>



Images from Calphotos. [12]

Note: This template was modified by J.D. Bakker from that available at:  
<http://www.nativeplantnetwork.org/network/SampleBlankForm.asp>