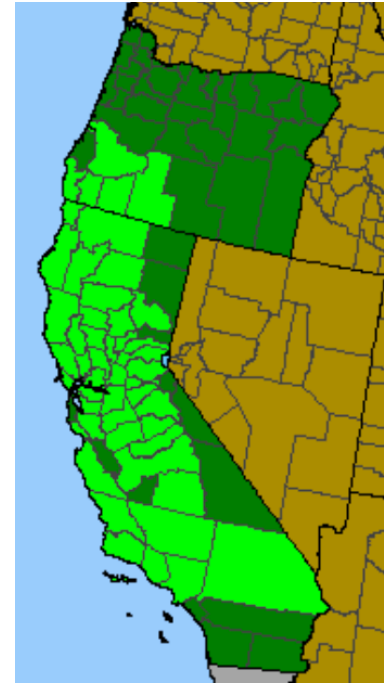
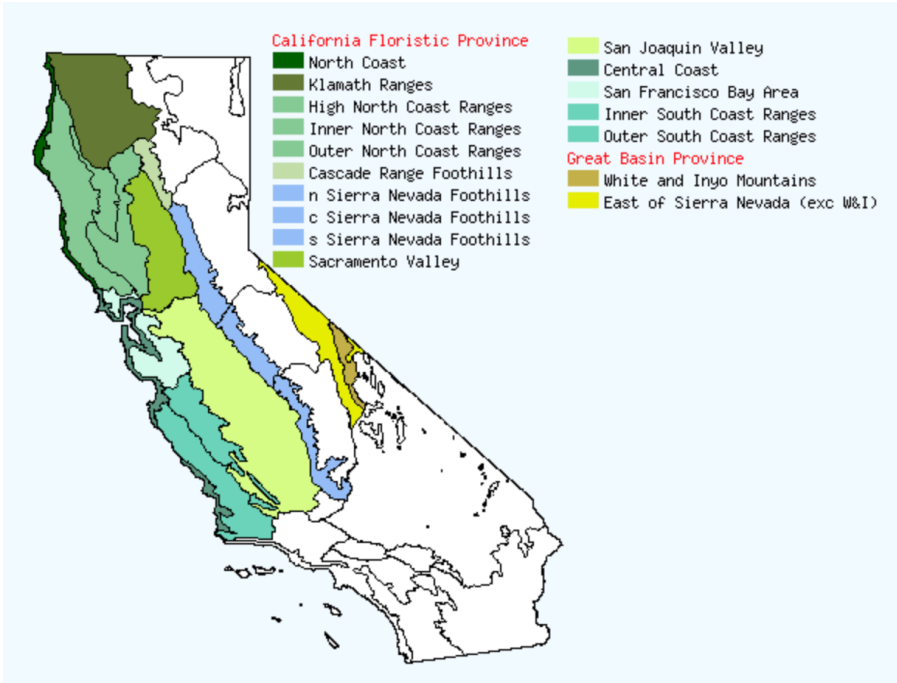


Plant Propagation Protocol for *Vitis californica*

ESRM 412 – Native Plant Production

URL: <https://courses.washington.edu/esrm412/protocols/2021/VICA5.pdf>



Wada, E. B., & Walker, M. A. (2012). *Vitis californica*. https://ucjeps.berkeley.edu/eflora/eflora_display.php?tid=48407.

Kartesz, J.T., The Biota of North America Program (BONAP). 2015. *North American Plant Atlas*. (<http://bonap.net/napa>). Chapel Hill, N.C. [maps generated from Kartesz, J.T. 2015. Floristic Synthesis of North America, Version 1.0. Biota of North America Program (BONAP). (in press)].

TAXONOMY	
Plant Family	
Scientific Name	<i>Vitaceae</i>
Common Name	Grape family
Species Scientific Name	
Scientific Name	<i>Vitis californica</i> Benth.
Varieties	N/A

Sub-species	N/A
Cultivar	Roger's Red
Common Synonym(s)	N/A
Common Name(s)	California wild grape, Northern California grape, Pacific grape
Species Code (as per USDA Plants database)	VICA5
GENERAL INFORMATION	
Geographical range	Maps included above
Ecological distribution	<p>Grows in riparian forests and woodlands. Often found in moist areas such as near river and creek beds (University of California Agriculture and Natural Resources 2020).</p> <p>Appears in the communities of Mixed Evergreen Forest, Northern Oak Woodland, Foothill Woodland, wetland-riparian (The Calflora Database 2021).</p>
Climate and elevation range	<p>Most commonly found at intermediate elevations below 4000 m, most commonly in the range of 80-1200 m (WTU Herbarium 2019).</p> <p>Vine typically grows in partial shade in moist areas but can tolerate full sun, heat, and dry conditions (University of California Agriculture and Natural Resources 2020).</p>

<p>Local habitat and abundance</p>	<p>Primary habitat: canyons (The Calflora Database 2021). Often grows along woody plants, particularly large trees.</p> <p>Tree associates include valley oak (<i>Quercus lobata</i>) riparian, mixed-oak riparian, Fremont cottonwood (<i>Populus fremontii</i>), black cottonwood (<i>Populus trichocarpa</i>), cottonwood-willow, mixed-hardwood riparian, red alder (<i>Alnus rubra</i>), white alder (<i>Alnus rhombifolia</i>), California black walnut (<i>Juglans hindsii</i>), California sycamore (<i>Platanus racemosa</i>), interior live oak (<i>Quercus wislizeni</i>), California box elder (<i>Acer negundo</i> var. <i>californicum</i>), Oregon ash (<i>Fraxinus latifolia</i>), California bay (<i>Umbellularia californica</i>), and California buckeye (<i>Aesculus californica</i>). May reach as high as the canopy of trees.</p> <p>Shrub associates include Mexican tea (<i>Chenopodium ambrosoides</i>), California blackberry (<i>Rubus vitifolius</i>), coyote bush (<i>Baccharis pilularis</i> var. <i>consanguinea</i>), California wild rose (<i>Rosa californica</i>), valley willow (<i>Salix hindsiana</i>), and arroyo willow (<i>Salix lasiolepis</i>).</p> <p>Vine associates include Dutchman's pipe vine (<i>Aristolochia californica</i>), poison-oak (<i>Toxicodendron diversilobum</i>), and wild clematis (<i>Clematis</i> spp.) (Howard 1993).</p>
<p>Plant strategy type / successional stage</p>	<p>Secondary colonizer after fire incidents (Howard 1993).</p> <p>Crown root sprouter (Sampson and Jespersen 1963, p. 115).</p> <p>Puts down deep roots and can be invasive (California Native Plant Society n.d.).</p>
<p>Plant characteristics</p>	<p>Woody vines. Flowers May-June, fruiting August-September. Can grow to 10 or more meters in length. Cordate leaves with shallow lobes, may be serrate. Flowers grow in inflorescences and are generally reddish to yellowish. Fruit produces is a purple, spheric berry. Often hybridizes with <i>Vitis vinifera</i> and <i>Vitis girdiana</i>. (Moore 1993) (Moore & Wen 2017).</p>
<p>PROPAGATION DETAILS</p>	
<p>Propagation protocol for vegetative production of <i>Vitis californica</i> (Robbins 1986)</p>	

Ecotype	N/A
Propagation Goal	Plants
Propagation Method	Vegetative (Cuttings)
Product Type	Plug
Stock Type	Mist beds
Time to Grow	>57 days
Target Specifications	Callusing of cuttings to be observed (grapes.org 2019).
Propagule Collection Instructions	Collect in mid-March from a dormant plant. Take 6-10 yard woody canes that are at least 2 years old.
Propagule Processing/Propagule Characteristics	Canes are cut into stem segments that are 4-10 inches long, with 2-4 nodes per segment.
Pre-Planting Propagule Treatments	Segments stored at 6°C for three days following collection. A transverse cut is made above the uppermost node. A slant cut is made below the bottommost node.
Growing Area Preparation / Annual Practices for Perennial Crops	Cuttings are placed in mist beds in a controlled greenhouse with the soil media of peat:vermiculite (1:1 by volume).
Establishment Phase Details	Flats are misted with deionized water (2.5 seconds every 2.5 minutes, dawn to dusk). In a mist bench with bottom heat of 25°C. Greenhouse temperatures were 24°C (day) and 18°C (night).
Length of Establishment Phase	4 weeks (Dial 2012)
Active Growth Phase	Irrigation frequency is reduced to a 20 minute interval per day.
Length of Active Growth Phase	4 months
Hardening Phase	Watering is done by hand instead of automatically to keep the roots moist through winter, but the lower temperature means less water is required.
Length of Hardening Phase	2 months
Harvesting, Storage and Shipping	Harvesting and shipment of seedlings should take place during dormancy
Length of Storage	N/A

Guidelines for Outplanting / Performance on Typical Sites	Outplant seedlings that are dormant (leaves have fallen off).
Other Comments	Outplanted seedlings have higher survival rates in low-light conditions, under canopy (Moore 2011)
INFORMATION SOURCES	

References

- The Calflora Database [a non-profit organization], & Information on California plants for education, research and conservation, with data contributed by public and private institutions and individuals, including the Consortium of California Herbaria. (2021). *Vitis californica* Calflora. <https://www.calflora.org/app/taxon?cm=8321>.
- California Native Plant Society. (n.d.). *California Grape, Vitis californica*. Calscape. <https://calscape.org/Vitis-californica-%28California-Grape%29>.
- Dial, H. (2012). *Native Plant Network*. Reforestation, Nurseries and Genetics Resources. <https://npr.rngr.net/renderNPNProtocolDetails?selectedProtocolIds=vitaceae-vitis-3918>.
- grapes.org. (2019, June 20). *When is the best time to take cuttings to propagate a grape vine, and what is the correct propagation procedure?* Grapes. <https://grapes.extension.org/when-is-the-best-time-to-take-cuttings-to-propagate-a-grape-vine-and-what-is-the-correct-propagation-procedure/>.
- Kartesz, J.T., The Biota of North America Program (BONAP). 2015. *North American Plant Atlas*. (<http://bonap.net/napa>). Chapel Hill, N.C. [maps generated from Kartesz, J.T. 2015. Floristic Synthesis of North America, Version 1.0. Biota of North America Program (BONAP). (in press)].
- Howard, J. L. (1993). *Species: Vitis californica*. Fire Effects Information System (FEIS). <https://www.fs.fed.us/database/feis/plants/vine/vital/all.html#>.
- Moore, M. O. (1993). *UC/JEPS: Jepson Manual treatment for Vitis Californica*. Treatment from the Jepson Manual. https://ucjeps.berkeley.edu/cgi-bin/get_JM_treatment.pl?Vitis%2Bcalifornica.

References

- Moore, M. O., & Wen, J. (2017, February 1). *Vitis californica* in *Flora of North America*. [efloras.org](http://www.efloras.org/florataxon.aspx?flora_id=1&taxon_id=250101309). http://www.efloras.org/florataxon.aspx?flora_id=1&taxon_id=250101309.
- Robbins, J. A., & Burger, D. W. (1986). Propagating California wild grape. *California Agriculture*, May-June, 9–10.
- Sampson, A. W., & S., J. B. (1963). Vitaceae. In *California range brushlands and browse plants* (pp. 115–116). essay, Division of Agricultural Sciences, University of California.
- University of California Agriculture and Natural Resources. (2020, January). *Vitis 'Roger's Red'- An Ornamental Grape*. UC Master Gardener Program of Sonoma County. http://sonomamg.ucanr.edu/Plant_of_the_Month/Vitis_californica/.
- Wada, E. B., & Walker, M. A. (2012). *Vitis californica*. https://ucjeps.berkeley.edu/eflora/eflora_display.php?tid=48407.
- WTU Herbarium, B. M. (2019, May 31). *CPNWH Search Results "Vitis californica"*. CPNWH Search Results. <https://www.pnwherbaria.org/data/results.php?DisplayAs=WebPage&ExcludeCultivated=Y&GroupBy=ungrouped&SortBy=Year&SortOrder=DESC&SearchAllHerbaria=Y&QueryCount=1&IncludeSynonyms1=Y&Genus1=Vitis&Species1=californica&Zoom=4&Lat=55&Lng=-135&PolygonCount=0>.

Other Sources Consulted

- Bonner, F. T., & Karrfalt, R. P. (2008). *The woody plant seed manual*. U.S. Dept. of Agriculture, Forest Service.
- Dangl, G. S., Mendum, M. L., Yang, J., Walker, M. A., & Preece, J. E. (2015, November 19). *Hybridization of cultivated Vitis vinifera with wild V. californica and V. girdiana in California*. Wiley Online Library. <https://onlinelibrary.wiley.com/doi/10.1002/ece3.1797>.
- Harris, R. R. (2003, June 25). *Occurrence patterns of riparian plants and their significance to water resource development*. Biological Conservation. <https://www.sciencedirect.com/science/article/pii/S0006320786901266?via=ihub>.
- Hartmann, H. T., Kester, D. E., Davies, F. T., & Geneve, R. L. (2011). *Plant propagation: principles and practices* (7th ed.). Prentice Hall.
- Inland Valley Garden Planner, W. C. C. (2020, March 23). *California grape + cv*. Inland Valley Garden Planner. <https://inlandvalleygardenplanner.org/plants/vitis-californica/>.
- Klaassen, V. A., Sim, S. T., Dangl, G. S., Osman, F., Rwahnih, M. A., Rowhani, A., Golino, D. A., Golino, C. author: D. A., Rwahnih, M. A., Diaz-Lara, A., Cieniewicz, E., Rasool, S., Vončina, D., Arnold, K., Beach, S., Bahder, B. W., Perry, K. L., Vargas-Asencio, J., & Naidu, R. (2011, May 9). *Vitis californica and Vitis californica × Vitis vinifera Hybrids are Hosts for Grapevine leafroll-associated virus-2 and -3 and Grapevine virus A and B*. APS Publications. <https://apsjournals.apsnet.org/doi/10.1094/PDIS-09-10-0621>.
- Kruckeberg, A. R. (2019). *Gardening with Native Plants of the Pacific Northwest An Illustrated Guide*. University of Washington Press.

Other Sources Consulted	Plants For A Future. (2010). <i>Vitis californica</i> - Benth. Pfaf Plant Search. https://pfaf.org/user/Plant.aspx?LatinName=Vitis%2Bcalifornica . United States Department of Agriculture, N. R. C. S. (2014). <i>Vitis californica</i> Benth. PLANTS Database. https://plants.sc.egov.usda.gov/home/plantProfile?symbol=VICA5 .
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