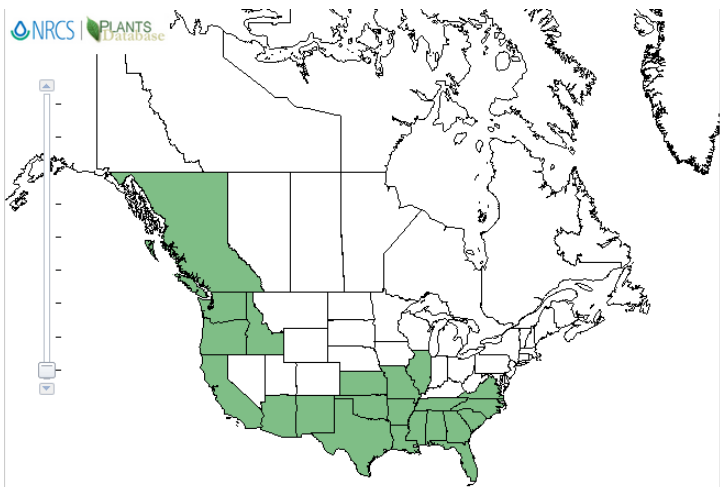
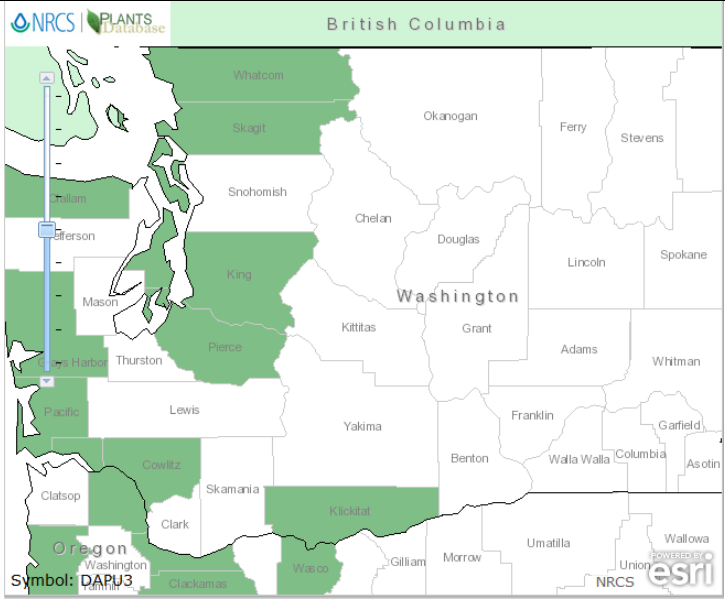


Plant Propagation Protocol for *Daucus pusillus*

ESRM 412 – Native Plant Production

Protocol URL: <https://courses.washington.edu/esrm412/protocols/DAPU3.pdf>

TAXONOMY	
Plant Family	
Scientific Name	Apiaceae ¹¹
Common Name	Carrot Family ¹¹
Species Scientific Name	
Scientific Name	<i>Daucus pusillus</i> Michx. ¹¹
Varieties	N/A
Sub-species	N/A
Cultivar	N/A
Common Synonym(s)	<i>Daucus carota</i> L. var. <i>microphyllus</i> <i>Daucus microphyllus</i> ⁴
Common Name(s)	Rattlesnakeweed, southwestern carrot, seedticks, Rattlesnake-weed, yerba del vibora ³
Species Code (as per USDA Plants database)	DAPU3 ¹¹
GENERAL INFORMATION	
Geographical range	<p><i>D. pusillus</i> is spread from the Pacific Northwest to Idaho, California and across the Southern States ⁴</p>  <p>Symbol: DAPU3</p> <p>NRCS esri</p>

	
Ecological distribution	Inhabits open areas that are dry, rocky or grassy ¹ , and after disturbances such as fire ⁷ <i>D. pusillus</i> has been known to become dominant in pastures, prairies, grasslands and roadsides. ^{5 3} <i>Daucus pusillus</i> prefers sandy, gravelly, alkaline soil that is well drained and moist but not wet ^{3 8}
Climate and elevation range	Prefers sun as it cannot tolerate shade ³ and is found at low elevations ¹ below 5,000 ft. ⁹
Local habitat and abundance	Found west of the Cascades ⁴ <i>D. pusillus</i> can be considered weedy in areas that it has colonized after a disturbance ⁵
Plant strategy type / successional stage	Colonizer ⁵
Plant characteristics	Annual herb that can get up to 70 cm. tall and is unbranched or has only a small branch ^{1 2 3} <i>D. pusillus</i> is similar to <i>D. carota</i> but is smaller, more slender, and has less flowers ¹ , which are white. ³ After maturing the flower umbel closes and forms what resembles a bird's nest. ³ The flowers, which are pollinated by flies and bees, are hermaphroditic ³
PROPAGATION DETAILS	
Ecotype	N/A
Propagation Goal	Seed ⁶
Propagation Method	Seed ⁶
Product Type	Bareroot (field grown) ⁶
Stock Type	N/A
Time to Grow	<i>Daucus</i> spp. are biennials and need two growing seasons to produce seeds, after the first season roots should be

	harvested and stored over winter and planted again in the spring* ⁶
Target Specifications	Roots should be healthy, well developed, and at full ripeness when they are uprooted in autumn for storage over the winter* ⁶
Propagule Collection Instructions	Collect seeds towards the end of June through the middle of November ⁹ when all of the fruits on the plant are mature ²
Propagule Processing/Propagule Characteristics	635 seeds per gram ⁹
Pre-Planting Propagule Treatments	After seed collection, let seeds air dry before using a sieve to break up plant material followed by a series of screens with different sizes to separate seeds from chaff ² Store seeds in a dry environment in a refrigerator ⁹ Seeds will germinate in the dark ¹⁰ and will have a higher germination rate if put in cold stratification ³
Growing Area Preparation / Annual Practices for Perennial Crops	N/A
Establishment Phase Details	Depending on the variety seeds should be sown early summer or a week to two weeks before the last spring frost* ⁶
Length of Establishment Phase	N/A
Active Growth Phase	When <i>Daucus</i> spp. are grown for propagation should be harvested in the first year in late autumn, choosing roots that are well developed and healthy. Once roots are collected, cut the tops down to 1-2 inches above the crown and store in a root cellar that will protect them from frost over the winter. Ideally store the roots between 33-38°F at 90% humidity, and replant the healthiest roots in early to mid-spring* ⁶
Length of Active Growth Phase	N/A
Hardening Phase	In order to let the roots adapt to sun after winter it is recommend to have a hardening-off period of a few days* ⁶
Length of Hardening Phase	A few days* ⁶
Harvesting, Storage and Shipping	Seeds should begin to be harvested from first umbels on the main stem when the umbels are brown and dry and can be harvested over a period of time* ⁶
Length of Storage	N/A
Guidelines for Outplanting / Performance on Typical Sites	N/A
Other Comments	Plants within the Apiaceae family are known to cross-pollinate and it crossing between wild carrot and commercial carrot seeds is not uncommon. In order to avoid this isolation cages or tents can be used along with planting during different flowering seasons* ⁶

INFORMATION SOURCES	
References	See below
Other Sources Consulted	
Protocol Author	Raona Mecka
Date Protocol Created or Updated	06/07/15

*Limited propagation information about *Daucus pusillus* was available and information with an asterisk* next to it has been filled in with propagation information from *Daucus carota*. Some information may need to be slightly modified for propagation of *Daucus pusillus* but because they are a part of the same genus much of this information should apply to *Daucus pusillus*.

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

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