Plant Propagation Protocol for *Penstemon washingtonensis*
ESRM 412 – Native Plant Production
URL: https://courses.washington.edu/esrm412/protocols/[*2025*]/[*PEWA9.pdf*]

Source: USDA PLANTS Database

TAXONOMY	
Plant Family	
Scientific Name	*Scrophulariaceae Juss*
Common Name	Figwort Family
Species Scientific Name	
Scientific Name	*Penstemon washingtonensis* D.D. Keck
Varieties	N/A
Sub-species	N/A
Cultivar	N/A
Common Synonym(s)	*Penstemon washingtonensis* D.D. Keck-Washington beardtongue
Common Name(s)	Washington beardtongue, large-flowered beardtongue, showy beardtongue, pink beardtongue, shell-leaf penstemon, shell-leaf beardtongue, wild foxglove, Canterbury bells
Species Code (as per USDA Plants database)	PEWA9
GENERAL INFORMATION	
Geographical range	East of the Cascades crest. Endemic to Chelan and Okanogan counties in Washington (Burke Herbarium, 2022; Burke Herbarium, 2025).
Ecological distribution	Alpine meadows, rocky slopes, prairies, and grassy openings in pine and fir forests. Commonly found in sandy or loamy soils (Burke Herbarium, 2022; Freeman, 2020).

Climate and elevation range	Open slopes and flats at moderate elevations to alpine meadows (Burke Herbarium, 2022). Found at elevations from 1800 to 2300 meters (Freeman, 2020).
Local habitat and abundance	Prefers acidic, neutral, or alkaline soils that are well drained (USDA & NRCS, 2002).
Plant strategy type / successional stage	It can grow in dry environments and grow in semi shade or no shade (USDA & NRCS, 2002).
Plant characteristics	*Penstemon washingtonensis* is a forb/herb (USDA & NRCS, 2002). The duration of growth is perennial from June to August and is a long-lived specie (Burke Herbarium, 2025; Abrams, 1940)
PROPAGATION DETAILS: FROM SEED	
Ecotype	No notes were made for the origins of the seeds used in the following propagation methods.
Propagation Goal	Plants
Propagation Method	Seed
Product Type	Container and Propagules
Stock Type	
Time to Grow	Half a year to several years, widely varies by species (USDA & NRCS, 2002; Geer, 2009).
Target Specifications	Mature shoots
Propagule Collection Instructions	If collected from wild plants, take only a small percentage of seed (Geer, 2009). The recommended method to collect seeds is to cut the stems and dry inflorescences in a paper bag. These seeds will remain viable for around 5 years following collection, though germination is most success after being dry stored for 6 months to a year (AMERICAN PENSTEMON SOCIETY, 2025; Geer, 2009).
Propagule Processing/Propagule Characteristics	Seeds can be collected from the American Penstemon Society or commercial growers (Geer, 2009).
Pre-Planting Propagule Treatments	Cold moist stratification is recommended for 6 to 12 weeks to allow seeds to germinate before planting (Geer, 2009).
Growing Area Preparation / Annual Practices for Perennial Crops	A mixture of sand, perlite, and vermiculite can be used and then the container can be left outside during winter (Geer, 2009). Seeds can also be sown outside in the fall (Geer, 2009).
Establishment Phase Details	To germinate the seeds, they can also be placed in damp sand inside a plastic bag and monitored for signs of germination within 6 to 12 weeks (Geer, 2009).
Length of Establishment Phase	6 to 12 weeks (Geer, 2009).

Active Growth Phase	In a greenhouse setting, seeds are best planted in fall or spring. Then seeds should be placed into individual pots within one to four months after germination and out planted in late spring (USDA & NRCS, 2002). To grow in the field, the seeds should be planted outdoors in the fall under thin ground cover at around 40ºF (4ºC) and left throughout the winter (Swayne, 2000; Geer, 2009).
Length of Active Growth Phase	N/A
Hardening Phase	N/A
Length of Hardening Phase	N/A
Harvesting, Storage and Shipping	Seeds can be viable after collection for several years if kept in dry conditions (Geer, 2009).
Length of Storage	N/A
Guidelines for Outplanting / Performance on Typical Sites	Once germinated, seeds need to be planted or fertilized during establishment and active growth phases (USDA & NRCS, 2002). To improve performance for outplanting seeds or active growth, planting in cooler temperatures with warming temperatures is recommended (Geer, 2009).
Other Comments	
PROPAGATION DETAILS: VEGETATIVE	
Ecotype	No notes were made for the origins of the seeds used in the following propagation methods.
Propagation Goal	Plants
Propagation Method	Vegetative
Product Type	Propagules
Stock Type	
Time to Grow	Varies by species.
Target Specifications	Flower cuttings.
Propagule Collection Instructions	Cuttings are taken from late spring through fall from non-flowering stems or flowering stems near the base when the stem is firm but not woody (AMERICAN PENSTEMON SOCIETY, 2025; Geer, 2009).
Propagule Processing/Propagule Characteristics	Cuttings should be a few inches long with about four to six nodes on the stem and the top of the cutting cut just above the node with leaves present (AMERICAN PENSTEMON SOCIETY, 2025; Geer, 2009).
Pre-Planting Propagule Treatments	The bottom leaves on the stem should be removed and the cutting site can be treated with hormone powered or liquid (AMERICAN PENSTEMON SOCIETY, 2025).
Growing Area Preparation / Annual Practices for Perennial Crops	Rooting media is suggested to be a well watered mix of perlite, vermiculite, and sand that can support three to five inches of the cutting placed in the media (AMERICAN PENSTEMON SOCIETY, 2025).

Establishment Phase Details	N/A
Length of Establishment Phase	N/A
Active Growth Phase	Stem tip cuttings can be taken from non-flowering, semi-mature, or mature shoots in the early summer and fall (USDA & NRCS, 2002).
Length of Active Growth Phase	N/A
Hardening Phase	A greenhouse setting is recommended to allow adequate warmth, light, air movement, and humidity. Once roots are well developed, plants can be transferred to new soil media and watered with liquid fertilizer. Then after plants are well established, they can be out-planted (AMERICAN PENSTEMON SOCIETY, 2025).
Length of Hardening Phase	N/A
Harvesting, Storage and Shipping	Cuttings can be stored in plastic bags and kept moist (Geer, 2009).
Length of Storage	N/A
Guidelines for Outplanting / Performance on Typical Sites	N/A
Other Comments	*Penstemon* may also be propagated by layering which is successful with species like *P. fruiticosus, P. duestus, and P. richardsonii* (Geer, 2009)
INFORMATION SOURCES	
References	Abrams, L. R. (1940). *Illustrated Flora of the Pacific States, Washington, Oregon, and California*. Stanford University Press. AMERICAN PENSTEMON SOCIETY. (2025). *Propagation*. Penstemons.org. https://penstemons.org/index.php/propagation Burke Herbarium. (2025). *Burke: Penstemon speciosus*. Nwwildflowers.com. https://nwwildflowers.com/compare/?source=WA&t=Penstemon+speciosus Burke Herbarium. (2025). *Burke: Penstemon speciosus*. Nwwildflowers.com. https://nwwildflowers.com/compare/?source=WA&t=Penstemon+speciosus Geer, S. (2025). *Native Penstemons in Our Gardens*. Google.com. https://williamcusick.npsoregon.org/DocumentFiles/booklet_penstemon2.pdf *Penstemon washingtonensis	Wolfe Lab*. (2023). Ohio-State.edu. https://wolfelab.asc.ohio-state.edu/database/penstemon-washingtonensis

	Swayne, J. (2000, November). *Penstemon -- Seed Germination Methodology*. Hort.net. https://tomclothier.hort.net/page08.html *USDA Plants Database*. (2025). Usda.gov. https://plants.usda.gov/plant-profile/PEWA9 USDA, & NRCS. (2002). *LARGE BEARD TONGUE Penstemon grandiflorus Nutt*. https://plants.usda.gov/DocumentLibrary/plantguide/pdf/pg_pegr7.pdf
Other Sources Consulted	Burke Herbarium. (2023). *CPNWH Search Results*. Pnwherbaria.org. https://www.pnwherbaria.org/data/results
Protocol Author	Mikaela Seelke
Date Protocol Created or Updated	05/06/2025