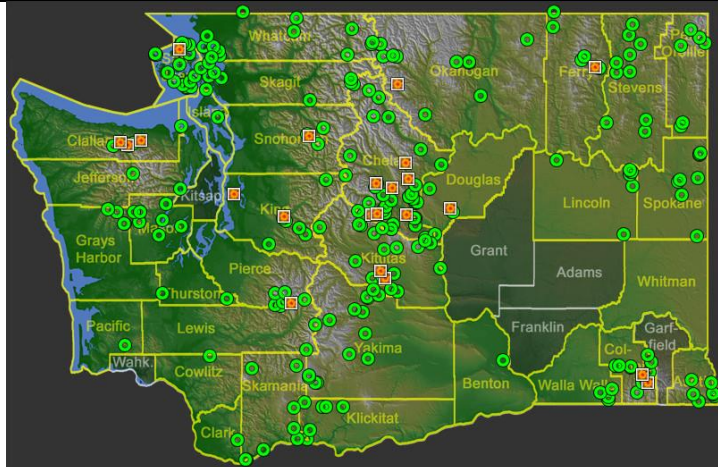


**Plant Propagation Protocol for *Acer glabrum* Torr. var. *douglasii***

ESRM 412 – Native Plant Production

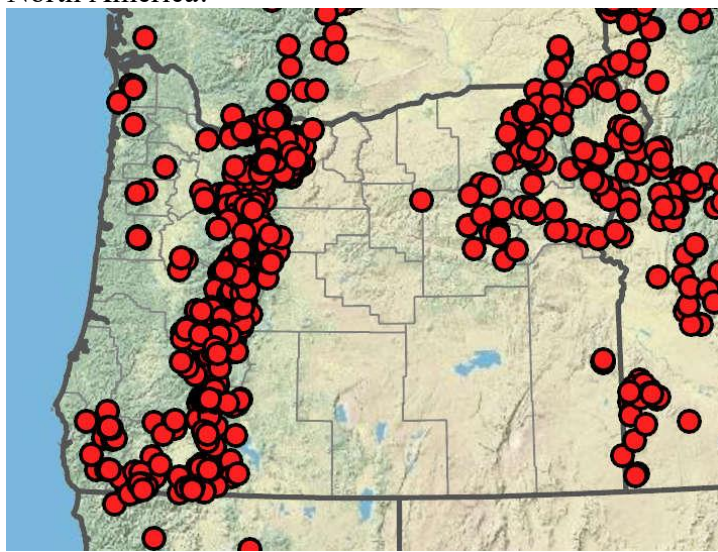
URL: [https://courses.washington.edu/esrm412/protocols/2025/\[ACGL.pdf\]](https://courses.washington.edu/esrm412/protocols/2025/[ACGL.pdf])

<b>TAXONOMY</b>	
<b>Plant Family</b>	
Scientific Name	<i>Aceraceae</i>
Common Name	Maple
<b>Species Scientific Name</b>	
Scientific Name	<i>Acer glabrum</i> Torr. var. <i>douglasii</i>
Varieties	<ul style="list-style-type: none"> <li>• <i>Acer glabrum</i> var. <i>glabrum</i> Torr. - The nominal variety, widespread across the Rocky Mountains</li> <li>• <i>Acer glabrum</i> var. <i>diffusum</i> (Greene) Smiley- Found in eastern California, Nevada, and Utah.</li> <li>• <i>Acer glabrum</i> var. <i>douglasii</i> (Hook.) Dippel- Occurs from southern Alaska through British Columbia to Washington and Oregon.</li> <li>• <i>Acer glabrum</i> var. <i>greenei</i> A.C. Keller- Endemic to central California.</li> <li>• <i>Acer glabrum</i> var. <i>neomexicanum</i> (Greene) Kearney &amp; Peebles- Native to New Mexico and parts of the southwestern United States.</li> <li>• <i>Acer glabrum</i> var. <i>torreyi</i> (Greene) Smiley- Found in northern California and southern Oregon.</li> </ul>
Sub-species	Rocky Mountain Maple ( <i>Acer glabrum</i> )
Cultivar	
Common Synonym(s)	<i>Acer glabrum</i> Torr. ssp. <i>douglasii</i> Hook, <i>Acer douglasii</i> Hook, <i>Acer glabrum</i> Torr. var. <i>douglasii</i> (Hook) Dippel
Common Name(s)	Douglas Maple or Rocky Mountain Maple
Species Code (as per USDA Plants database)	ACGLD4
<b>GENERAL INFORMATION</b>	
Geographical range	Washington:



Burke Herbarium Image Collection

North America:



OregonFlora

Ecological distribution	<i>Acer glabrum</i> thrives in dry, open spaces with well-drained soil, such as rocky ridges, the edges of forests, and at the lower ends of avalanche paths. It can also be found along streams and in sheltered areas like canyons and ravines.(Cassell, B. (2010) )(USDA. (n.d.))
Climate and elevation range	Reported as 1,200 – 1,800 meters (USDA. (n.d.)) and 61 – 2,134 meters (Cassell, B. (2010))
Local habitat and abundance	Long lived, found in the understory of late seral forests (USDA NRCS National Plant Data Team. (n.d.))
Plant strategy type / successional stage	<i>Acer glabrum</i> is not tolerant of shade and doesn't compete well with conifers. However, it can withstand heavy weight, like that from avalanches or snow, because its stems and branches are flexible. It also can

	resprout after being damaged (USDA. (n.d.); USDA NRCS National Plant Data Team. (n.d.)).
Plant characteristics	<p><i>Acer glabrum</i>, commonly known as Rocky Mountain maple, is a small tree or large shrub that typically reaches heights of 1 to 10 meters. It features opposite branching and smooth grayish bark, with new growth often appearing reddish. The deciduous leaves are arranged oppositely, measuring 2 to 8 cm long, and have 3 to 5 lobes with coarsely toothed margins. Leaf color is green during spring and summer, transitioning to vibrant shades of yellow, orange, or red in the fall. The greenish-yellow flowers bloom from April to May and appear in clusters of about 10, either at the ends of branches (terminal) or in the leaf axils. Both male and female flowers may occur on the same plant or on separate plants. The fruit is a smooth, hairless, winged samara—forming a V-shaped pair—measuring 2 to 3 cm long and ranging in color from tan to green. (Cassell, B. (2010); Nesom, G. (n.d.).)</p>
<b>Propagation Goal</b>	
Propagation Goal	<b>Seeds</b>
Propagation Method	Seeds
Product Type	Container (plug), bare-root (Luna, T. (2008))
Stock Type	Seedlings
Time to Grow	About 9 to 12 months (USDA NRCS National Plant Data Team. (n.d.); USDA. (n.d.)).
Target Specifications	Seeds are collected from mature trees and require stratification to break dormancy and ensure successful germination (USDA NRCS National Plant Data Team. (n.d.); USDA. (n.d.)).
Propagule Collection Instructions	Between <b>September and February</b> , ideally in <b>autumn or early winter</b> to maintain viability by hand picking or shaking the mature tree (USDA. (n.d.)).
Propagule Processing/Propagule Characteristics	<i>Acer glabrum</i> seed density averages <b>16,000 seeds per pound</b> , with reported ranges from <b>7,820 to 20,300 seeds per pound</b> , depending on whether the seeds have been cleaned. Seeds should be <b>sown as soon as possible after collection</b> , but they can be <b>stored for up to 2 years</b> under proper conditions (USDA NRCS National Plant Data Team. (n.d.); USDA. (n.d.)).

Pre-Planting Propagule Treatments	Require cold stratification to break dormancy and promote germination (USDA NRCS National Plant Data Team. (n.d.); USDA. (n.d.)).
Growing Area Preparation / Annual Practices for Perennial Crops	Medium to course textured soils are desired with a pH from 5.5-7.5 (USDA, web). Preferred soils are silty to sandy or gravelly and well-drained (USDA. (n.d.)). Glacier Mountain National Park uses a planting medium of milled sphagnum peat, perlite and vermiculite with controlled release fertilizer in 172 ml Ray Leach Cone-Tainers. Success has also been found with fall planting outdoors in mulched beds with a planting density of 15-30 seeds per sq foot and at a depth of 1-2 cm (USDA. (n.d.)). Needs some shade for successful development, and may be prone to damping off. Arbuscular Mycorrhizae (AM) forms a partnership with Maple species, and should be produced in a pot culture ahead of time. Seeds should be sown in soil mixed with the pot culture. (Cassell, B. (2010); Crowley, D. (2024); EarthOne. (2024)).
Establishment Phase Details	Requires <b>cold stratification</b> for <b>60 to 120 days</b> to break dormancy and promote germination. Germination occurs under <b>greenhouse or outdoor nursery conditions</b> with adequate light, moisture, and protection from extreme temperatures. Constant water is important but make sure not to waterlog. (USDA NRCS National Plant Data Team. (n.d.); USDA. (n.d.))
Length of Establishment Phase	2 to 4 weeks (USDA NRCS National Plant Data Team. (n.d.); USDA. (n.d.)).
Active Growth Phase	16 weeks; plants can be transplanted into 1-gallon containers approximately 9 weeks after germination (USDA NRCS National Plant Data Team. (n.d.))
Length of Active Growth Phase	<b>4 to 5 months</b> , from <b>late spring through early fall</b> (USDA NRCS National Plant Data Team. (n.d.); USDA. (n.d.))
Hardening Phase	Irrigate, and fertilize if desired, prior to overwintering. 6 week hardening phase (USDA NRCS National Plant Data Team. (n.d.))
Length of Hardening Phase	1 to 2 months, from late summer to early fall (USDA NRCS National Plant Data Team. (n.d.); USDA. (n.d.))
Harvesting, Storage and Shipping	Harvested in <b>September</b> (USDI, web), or <b>when dormant</b> if bareroot (USDA. (n.d.)). stored in <b>cold</b> ,

	<b>moist conditions</b> (1–4°C). During shipping, keep seedlings <b>cool and moist</b> to prevent drying and damage (USDA NRCS National Plant Data Team. (n.d.); USDA. (n.d.); Barner, J. (n.d.))
Length of Storage	5 months, this species is rather frost tolerant. Outdoor storage of container plants should be fine under insulating cover (USDA NRCS National Plant Data Team. (n.d.)).
Guidelines for Outplanting / Performance on Typical Sites	Glacier National Park has had 100% survival of outplanted seedlings after 5 years.(Cassell, B. (2010))
Other Comments	N/A
<b>INFORMATION SOURCES</b>	
References	Find below
Other Sources Consulted	N/A
Protocol Author (First and last name)	Ashley Martinez
Date Protocol Created or Updated (MM/DD/YY)	5/7/2025

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