

Plant Propagation Protocol for *Abies Procera* Rehder

ESRM 412 – Native Plant Production

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

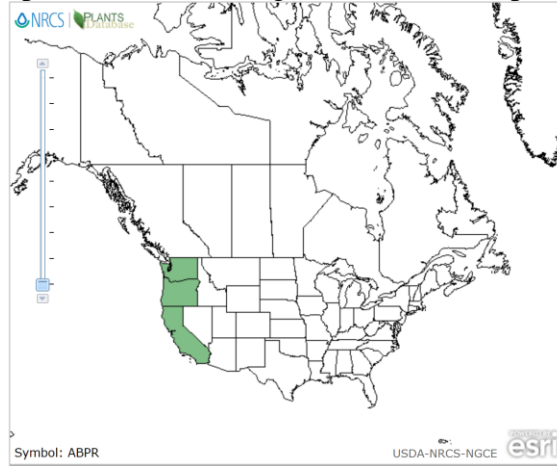


Figure 1 "Plants Profile For *Abies Procera* (Noble Fir)." *Plants.usda.gov*. N. p., 2019. Web. 1 May 2019.

TAXONOMY	
Plant Family	
Scientific Name	Pinaceae
Common Name	Pine Family
Species Scientific Name	
Scientific Name	<i>Abies Procera</i> Rehder
Varieties	No recognized varieties
Sub-species	No recognized sub-species
Cultivar	<i>Abies procera</i> 'Sherwoodii' <i>Abies procera</i> 'Glauca' <i>Abies procera</i> 'Glauca Prostrata' ¹
Common Synonym(s)	<i>Abies nobilis</i> (Douglas ex D. Don) Lindl.
Common Name(s)	Noble Fir, Red Fir, White Fir, larch
Species Code (as per USDA Plants database)	ABPR
GENERAL INFORMATION	
Geographical range	Found in Washington, Oregon and California usually on the western slopes of the Cascades in great abundance between latitudes 44N and 48N. Noble fir occurs in the Cascade Range from Stevens Pass, Washington, south to southern Oregon and the Klamath Mountains in northern California. Scattered populations occur on isolated peaks in the northern Coast Ranges of Oregon and in the Willapa Hills of southwestern Washington. ²
Ecological distribution	Douglas-fir (FRES20) Fir-spruce (FRES23) Hemlock-Sitka spruce (FRES24) ²

Climate and elevation range	Moist maritime climate, likes cooler temperatures and high precipitation. Annual precipitation ranges from 1900-2400mm, most of which falls as snow between October and March. Found between 1500 and 5,000 feet elevation.
Local habitat and abundance	West slopes of the Cascades; commonly associated with other northwest conifers, huckleberry species, Cascade azalea, Pacific rhododendron, bear grass, fawn lily and inside-out flower.
Plant strategy type / successional stage	Early-successional or pioneer species. Early colonizer after stand-replacing fires. Shade tolerance Intermediate. ^{3/4}
Plant characteristics	Life Form: Tree Longevity: Long (Usually up to 400 years, with a maximum of 600-700 years. ² Fruit/Seed Color: Purple Width: 45-60in Height (mature): 230ft ⁴
PROPAGATION DETAILS	
Ecotype	
Propagation Goal	Plants
Propagation Method	Seed
Product Type	Bareroot, Container (plug)
Stock Type	Container plants
Time to Grow	One year minimum from seedling to container.
Target Specifications	3m seedlings / saplings
Propagule Collection Instructions	Seed Period: Late Spring - Fall Commercial Availability: Contract Only Propagated by: Bare Root, Container, Seed Trees begin producing cones after 20 years old. Seed quality is typically poor, with an average as low as 10 percent viable seeds. ³
Propagule Processing/Propagule Characteristics	Seed Density: 14640 / pound Longevity: Long Seed Abundance: Low ⁴ If properly stored in a dry, cool environment, seeds can remain viable for up to 5 years.
Pre-Planting Propagule Treatments	Seed must be stratified and can be stored for several years under proper conditions. Stratified seed should be sown from February through March. Germination may take several weeks; growth is best in shady, cool, and somewhat moist conditions. Initial growth is slow; stock usually outplanted as 2- to 3-year-old seedlings or 3- to 4-year-old transplants. ³
Growing Area Preparation / Annual Practices for Perennial Crops	Media: Coarse, Medium (no fine textured soils) Density / Acre: 430 – 1200 Long containers that can handle large, deep root structure ³

Establishment Phase Details	If planting in a greenhouse, sow seeds in February. Otherwise, plant outdoors in March. Stratification can help even out germination, when seeds are ripe in Autumn, they can be planted in a cold frame.
Length of Establishment Phase	Given proper stratification, seeds can take between 6 and 8 weeks to germinate.
Active Growth Phase	Many Noble Fir's are used as floral decoration, Christmas trees, and the wood is used because of its high strength-to-weight ratio. Because of this, many do not reach maturity before they are harvested.
Length of Active Growth Phase	Spring and Summer ⁴
Hardening Phase	Hard frost is common in late September to October, when they will usually harden for the winter. ³
Length of Hardening Phase	September to Late Spring – depending on seasonal weather distributions
Harvesting, Storage and Shipping	Overstocked trees can be harvested when less than 3m tall for landscape industry. ³ Fairly successful for seedlings and small saplings.
Length of Storage	As quickly as possible -
Guidelines for Outplanting / Performance on Typical Sites	Trees should be planted in their permanent positions when they are between 30 and 90 cm in height. Larger trees will transplant poorly and have poor root development and wind resistance.
Other Comments	
INFORMATION SOURCES	
References	<p>1 "Plant Database." <i>Hort.uconn.edu</i>. N. p., 2019. Web. 1 May 2019. http://hort.uconn.edu/detail.php?pid=6 (University of Connecticut, College of Agriculture)</p> <p>2 "Abies Procera." <i>Fs.fed.us</i>. N. p., 2019. Web. 1 May 2019. https://www.fs.fed.us/database/feis/plants/tree/abipro/all.html (USDA/USFS Fire Effects Information System (FEIS))</p> <p>3 <i>Fs.fed.us</i>. N. p., 2019. Web. 1 May 2019. https://www.fs.fed.us/pnw/pubs/gtr513/gtr513b.pdf (USFS)</p> <p>4 "Plants Profile For Abies Procera (Noble Fir)." <i>Plants.usda.gov</i>. N. p., 2019. Web. 1 May 2019. https://plants.usda.gov/core/profile?symbol=ABPR (USDA Plant Database)</p>
Other Sources Consulted	"Noble Fir (Abies Procera) - American Forests." <i>American Forests</i> . N. p., 2018. Web. 1 May 2019.

	" Abies Procera 'Aurea' / Golden Noble Fir Conifer Trinomial American Conifer Society." <i>American Conifer Society</i> . N. p., 2019. Web. 1 May 2019.
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