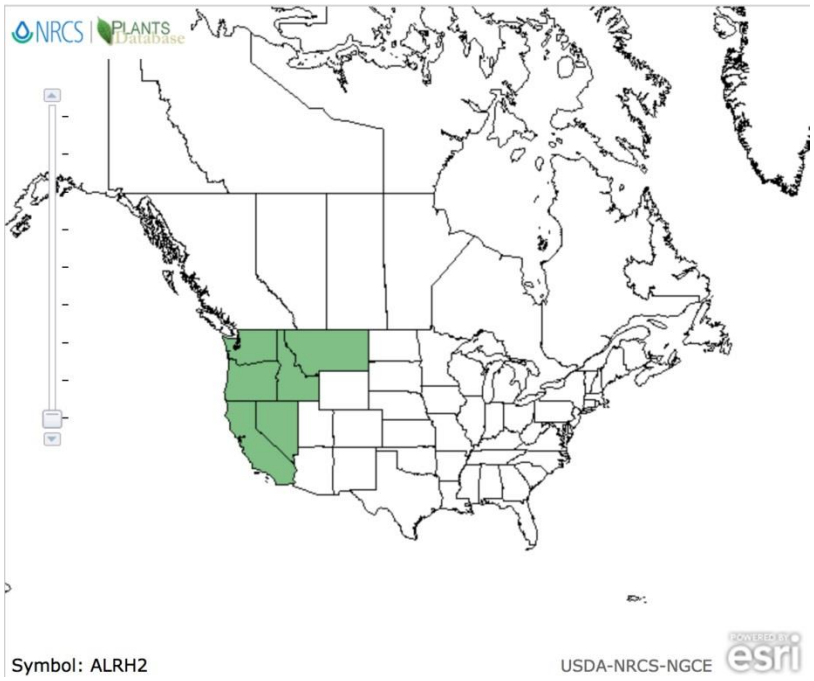
Plant Propagation Protocol for *Alnus Rhombifolia*

ESRM 412 – Native Plant Production



Distribution Map

Taxon: Alnus rhombifolia

Map Courtesy of the Flora of North America Association

TAXONOMY	
Plant Family	
Scientific Name	Betulaceae
Common Name	Birch family

Species Scientific Name	
Scientific Name	Order: Fagales Genus: *Alnus* Species: *A. rhombifolis* Authority: Nutt
Varieties	
Sub-species	
Cultivar	
Common Synonym(s)	*Alnus incana* *Alnus serrulata* *Alnus maritima* *Alnus crispa*
Common Name(s)	Saeaside alder, Grey alder, Mountain alder, Red alder
Species Code (as per USDA Plants database)	ALRH2
GENERAL INFORMATION	
Geographical range	Pacific coast of southern California, north in the coastal valleys to north of San Francisco Bay. On the lower eastern slopes of the cascade mountains in Oregon and Washinton, extend into the dry interior valleys of Oregon and Washington. (1)
Ecological distribution	Commonly found along streams in North American. Riparian woodland communities and adjacent dry slopes. (3)
Climate and elevation range	100-2400
Local habitat and abundance	Native to moist canyons on the west coast. Tolerates sand, clay, no drainage, and seasonal flooding.(1)
Plant strategy type / successional stage	Not drought tolerant Quick growing tree Attacked and killed by flat headed borer. This borer is closely related to the bronze birch borer. Prune infested branches during late summer and fall when the infestation is visible and easy to detect and the beetle does not fly. avoid pruning in spring. (2)
Plant characteristics	Nitrogen fixing plant. Foliage color is light green; type is deciduous and has fragrance. (2) It is in flower in March, and seeds ripen from Oct to January.(2)

	Individual flowers are either male or female, both sexes can be found on the same plant and pollinated by wind.
PROPAGATION DETAILS	
Propagation Goal	Plants
Propagation Method	Seed.
Product Type	Container
Time to Grow	NA
Target Specifications	A fast growing tree and average height of 40 feet. (4)
Propagule Processing/Propagule Characteristics	30-60 days cold moist stratification. Propagated from freshly collected seeds released from the female conelets in fall. (4)
Pre-Planting Propagule Treatments	Stratify the tree seeds in the fall or winter. Fill a plastic sandwich bag with a handful of damp peat moss or vermiculite and place the seeds in the bag. Store the seeds in a refrigerator at 33-41 degrees F for recommended stratification time.(5) If seeds are dried in storage, a cool-moist stratification at 41 degrees for 180 days will be necessary. (5)
Growing Area Preparation / Annual Practices for Perennial Crops	Set the seed tray in partial sunlight (about 50%) when the seeds begin to germinate. Keep the seed tray at room temperature while germinating and sprouting the maple tree seeds.(5) Plant the tree seeds a quarter-inch to 1-inch deep in the seed starting mixture, spaced about 1 or 2 inches apart. Plant the stratified seeds indoors in late winter or early spring. (5) Water the seed starting mix to keep the seeds evenly moistened, but allow the water to drain thoroughly. Let the seed starting mix dry out completely between watering's.(5)
Establishment Phase Details	stratify in the wet and cold winter weather and germinate the following spring Use flats of fertile potting soil, and leave seeds out during the winter months.(7)
Length of Establishment Phase	
Active Growth Phase	Germination and establishment must proceed quickly or germinates will die.(1) White alder generally grows quickly. However, growth

	is slow and plants are small on sites with fluctuating soil moisture in summer.(1)
Length of Active Growth Phase	
Hardening Phase	Transplant the strongest tree seedlings outdoors or into individual planter pots after they've developed their second set of leaves, or "true leaves."
Length of Hardening Phase	
Harvesting, Storage and Shipping	Harvest, dry and plant the tiny nutlets from the ripened cones.(7)
Length of Storage	High seed abundance (6) Seed seasonality in summer
Guidelines for Outplanting / Performance on Typical Sites	Most trees (10%-38% frequency) were 10 to 20 inches (30-50 cm) DBH. Density averaged 0.15 tree/m of stream channel segment.(1)
Other Comments	
INFORMATION SOURCES	
References	See below
Other Sources Consulted	
Protocol Author	Shiheng Lu
Date Protocol Created or Updated	4/28/2016

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