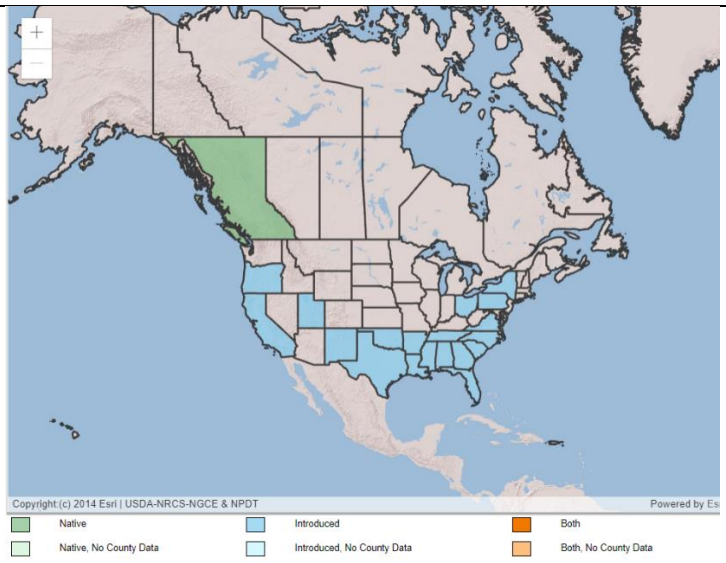
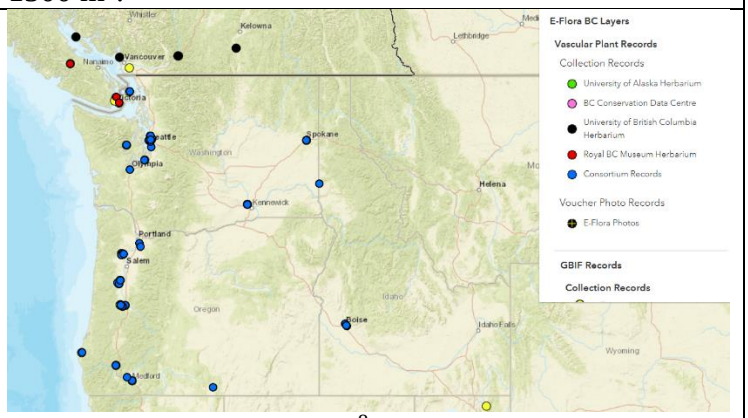
Plant Propagation Protocol for *Pyracantha coccinea*
ESRM 412 – Native Plant Production
URL: https://courses.washington.edu/esrm412/protocols/2022/PYCO2.pdf

(Source: Missouribotanicalgarden.org[1])

TAXONOMY	
Plant Family	
Scientific Name	Rosaceae[2]
Common Name	Rose Family[2]
Species Scientific Name	
Scientific Name	*Pyracantha coccinea* M. Roem.[2]
Varieties	No information found
Sub-species	No information found
Cultivar	Lalandei[2], Mohave[2], Aurea[3], Thornless[3], Apache[4], Chadwickii[4], Fiery Cascade[4], Gnome[4], Kasan[4], Lowboy[4], Soleil d'Or[4], Teton[4], Tiny Tim[4], Wyattii[4], Yukon Belle[4], Shawnee[5]
Common Synonym(s)	*Cotoneaster pyracantha* (L.) Spach[2], *Mespilus pyracantha* L.[2]
Common Name(s)	Scarlet firethorn[2]
Species Code (as per USDA Plants database)	PYCO2[2]
GENERAL INFORMATION	

Geographical range	 (Source: plants.usda.gov[1])
Ecological distribution	*P. coccinea* is found in rocky and steep areas, woodlands, coastal scrub, riparian areas, roadsides, and borders of grasslands[6].
Climate and elevation range	This species is hardy at USDA Hardiness Zones 6a, 6a, 7a, 7b, 8a, 8b, 9a, and 9b[3]. This means that *P. coccinea* can withstand winters where the temperature drops down to -10˚ F [3]. It also grows at most elevations under 1500 m[7].
Local habitat and abundance	 (Source: linnet.geog.ubc.ca[8]) *Pyracantha coccinea* can be found throughout the Pacific Northwest in Washington, Oregon, and British Columbia. There are also records of this species being in Idaho and Utah.
Plant strategy type / successional stage	No information found
Plant characteristics	*P. coccinea* is a drought-tolerant, medium, evergreen shrub[3]. It typically grows 8-10 feet tall and up to 12 feet wide. This species also produces white flowers in

	drooping clusters, glossy green leaves, needle-like spines, thorns, and orange-red berries[1].
PROPAGATION DETAILS	
Ecotype	No information found
Propagation Goal	Plants
Propagation Method	Seed[5]
Product Type	Container (plug)[5]
Stock Type	No information found
Time to Grow	No information found
Target Specifications	No information found
Propagule Collection Instructions	Collect fruits in fall or winter[5]
Propagule Processing/Propagule Characteristics	No information found
Pre-Planting Propagule Treatments	Macerate, remove pulp, and dry seeds before storing under refrigeration. Seeds require a cold stratification for 3 months. In a controlled study, fresh seeds without cold stratification did not germinate[5].
Growing Area Preparation / Annual Practices for Perennial Crops	No information found
Establishment Phase Details	No information found
Length of Establishment Phase	No information found
Active Growth Phase	No information found
Length of Active Growth Phase	No information found
Hardening Phase	No information found
Length of Hardening Phase	No information found
Harvesting, Storage and Shipping	No information found
Length of Storage	No information found
Guidelines for Outplanting / Performance on Typical Sites	Three months of cold stratification produced 82% germination[5]
Other Comments	Radicles emerged during the 6-month cold stratification period[5]
PROPAGATION DETAILS	
Ecotype	No information found
Propagation Goal	Plants
Propagation Method	Vegetative[5]
Product Type	Containers[5]
Stock Type	No information found
Time to Grow	No information found
Target Specifications	No information found
Propagule Collection Instructions	*P. coccinea* is a disease prone plant and spraying with a fungicide 24 hours before collecting cuttings was suggested. Best rooting occurs in June, July, and August[5].
Propagule Processing/Propagule Characteristics	Rooting conditions: 5 to 6” long cuttings[5]

Pre-Planting Propagule Treatments	1000 to 5000 ppm IBA-quick dip[5]
Growing Area Preparation / Annual Practices for Perennial Crops	Growing media: Perlite: peat (9:1, v/v)[5]
Establishment Phase Details	No information found
Length of Establishment Phase	Cuttings will be rooted in 4 to 6 weeks[5]
Active Growth Phase	No information found
Length of Active Growth Phase	No information found
Hardening Phase	No information found
Length of Hardening Phase	No information found
Harvesting, Storage and Shipping	No information found
Length of Storage	No information found
Guidelines for Outplanting / Performance on Typical Sites	Pot the rooted cuttings and place in a cold frame or greenhouse[5]
Other Comments	*Pyracantha* cultivars, such as 'Mohave', 'Shawnee', and 'Lalandei', can be propagated from softwood, semi-hardwood, or hardwood cuttings[5]. *Pyracantha* can be grown from root cuttings, but this has not proven economical or practical[5]. *Pyracantha* can be propagated by layering[5].
INFORMATION SOURCES	
References	See references below
Other Sources Consulted	See references below
Protocol Author	Austin Bleth
Date Protocol Created or Updated	05/23/22

References

[1]*Pyracantha coccinea.* (n.d.). Missouribotanicalgarden. Retrieved May 23, 2022, from https://www.missouribotanicalgarden.org/PlantFinder/PlantFinderDetails.aspx?taxonid=286399&isprofile=1&basic=Pyracantha%20coccinea

[2]USDA NRCS National Plant Data Team. (2014). *Pyracantha coccinea* M. Roem. Plants.usda. Retrieved May 23, 2022, from https://plants.usda.gov/home/plantProfile?symbol=PYCO2

[3]*Pyracantha coccinea.* (n.d.). Plants.ces.ncsu. Retrieved May 23, 2022, from https://plants.ces.ncsu.edu/plants/pyracantha-coccinea/

[4]*Species: Pyracantha coccinea.* (n.d.). woodyplants.cals.cornell. Retrieved May 23, 2022, from http://woodyplants.cals.cornell.edu/plant/199

[5]Dirr, M.A. and J.C.W. Heuser. *The Reference Manual of Woody Plant Propagation.* (2009). Timber Press, Inc. Second Edition, p. 298-299. Accessed May 23, 2022.

[6]Vélez-Gavilán, J. *Pyracantha coccinea (scarlet firethorn).* (2020). Cabi. Invasive Species Compendium. Retrieved May 23, 2022, from https://www.cabi.org/isc/datasheet/45994

[7]Zika, P.F. *Pyracantha coccinea.* (2012). Jepson eFlora. Retrieved May 22, 2022, from https://ucjeps.berkeley.edu/eflora/eflora_display.php?tid=40424

[8]*Pyracantha coccinea* M. Roem. (n.d.). eFloras. Retrieved May 22, 2022, from http://linnet.geog.ubc.ca/Atlas/Atlas.aspx?sciname=Pyracantha+coccinea

Other Sources Consulted

[9]USDA – Fire Effects Information System. (2022). Feis-crs. Retrieved May 22, 2022, from https://www.feis-crs.org/feis/

[10]Native Plant Network – Propagation Protocol Database. (2022). Npn.rngr. Retrieved May 22, 2022, from https://npn.rngr.net/

[11]*Pyracantha coccinea* M. Roem. (n.d.) Integrated Taxonomic Information System – Report. itis. Retrieved May 22, 2022, from https://www.itis.gov/servlet/SingleRpt/SingleRpt;jsessionid=C9208695446CE1B53721D6B34359CB19?search_topic=TSN&search_value=25293#null

[12]*Scarlet Firethorn.* (n.d.). invasiveplantatlas. Retrieved May 22, 2022, from https://www.invasiveplantatlas.org/subject.html?sub=14117#maps