

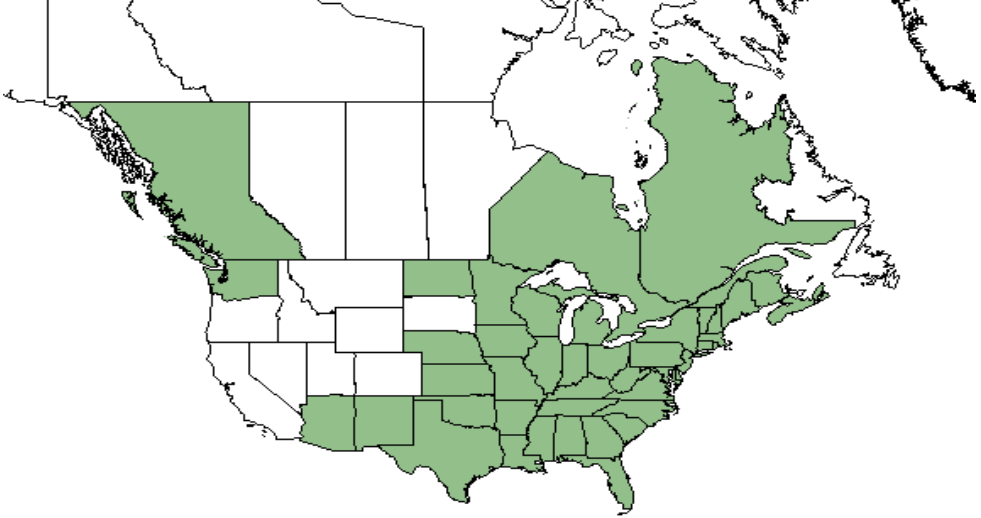
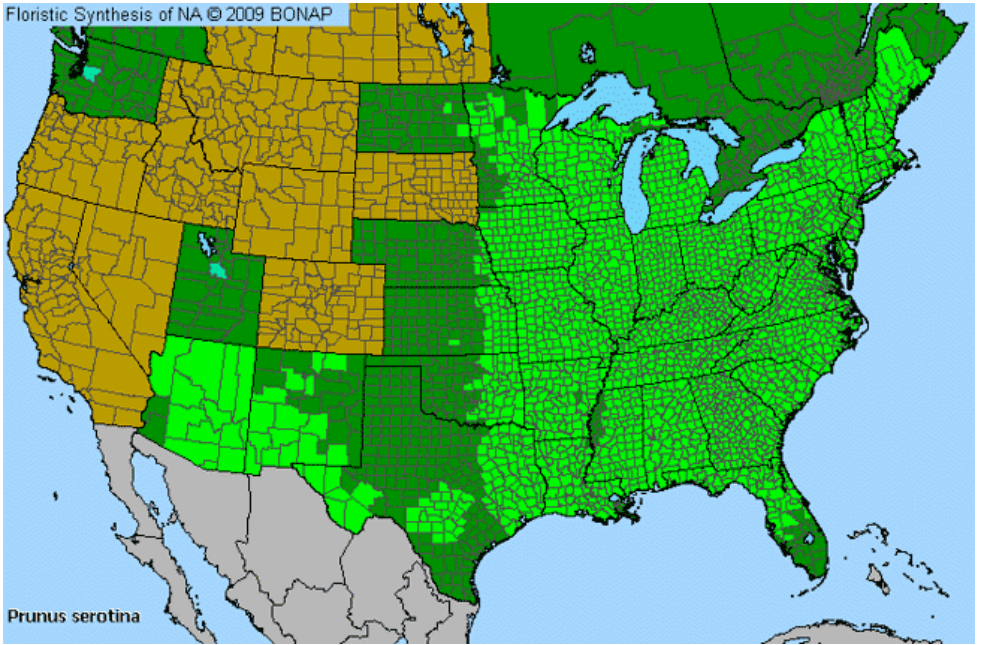
Plant Propagation Protocol for *Prunus serotina*

ESRM 412 – Native Plant Production

Protocol URL: <https://courses.washington.edu/esrm412/protocols/PRSE2.pdf>



TAXONOMY	
Plant Family	
Scientific Name	Rosaceae
Common Name	Rose family
Species	
Scientific Name	
Scientific Name	<i>Prunus serotina</i> ^[1]
Varieties	<i>Prunus serotina</i> Ehrh. var. <i>salicifolia</i> (Kunth) Koehne <i>Prunus serotina</i> Ehrh. ssp. <i>eximia</i> (Small) McVaugh <i>Prunus virens</i> (Wooton & Standl.) Shreve var. <i>rufula</i> (Wooton & Standl.) Sarg. <i>Prunus virens</i> (Wooton & Standl.) Shreve <i>Prunus serotina</i> Ehrh. ssp. <i>capuli</i> (Cav.) McVaugh
Sub-species	<i>Prunus serotina</i> subsp. <i>hirsuta</i> (Elliott) McVaugh <i>Prunus serotina</i> subsp. <i>eximia</i> (Small) McVaugh <i>Prunus serotina</i> subsp. <i>capuli</i> (Cav. ex Spreng.) McVaugh <i>Prunus serotina</i> subsp. <i>virens</i> (Wooton & Standl.) McVaugh
Cultivar	
Common Synonym(s)	<i>Cerasus serotina</i> (Ehrh.) Loisel. <i>Padus serotina</i> (Ehrh.) Borkh. <i>Prunus capuli</i> Cav. <i>Prunus Virginiana</i>
Common Name(s)	Wild black cherry Rum cherry Mountain black cherry

	American bird cherry
Species Code (as per USDA Plants database)	PRSE2
GENERAL INFORMATION	
Geographical range	  <p>Floristic Synthesis of NA © 2009 BONAP</p> <p><i>Prunus serotina</i></p> <p>Light Blue – Introduced Dark Green/ Light Green – Present/Native Mustard Yellow – Not Present</p>
Ecological distribution	Invades managed or semi-natural woodlands with acidic and sandy soils. ^[9] Mainly distributed in the eastern half of the United States but has been introduced to the west. ^[9] <i>P. serotina</i> is native to North America between 49°N and 30°N. Its range comprises central and eastern states of the USA

	and south eastern parts of Canada; from Nova Scotia and New Brunswick west to Southern Quebec and Ontario into Michigan and eastern Minnesota, south to Iowa, extreme eastern Nebraska, Oklahoma, and Texas, and east to central Florida. ^[9]
Climate and elevation range	Individuals of <i>P. Serotina</i> are, in natural conditions, scattered among other species or even in the form of pure stands at high elevations with impeded drainage. ^[9] Between 300m-1700m elevation is preferred. ^[9]
Local habitat and abundance	Introduced into Washington; located around the campuses of University of Washington, Washington State University, and University of British Columbia within shaded thickets and woodlands. ^[9]
Plant strategy type / successional stage	<i>P. Serotina</i> is a fast growing, shade intolerant tree species that is highly competitive in monopolizing resources, shading, and smothering other present species. ^[9] It has a broad native range with a high reproductive potential. Benefits from cultivation, browsing pressure, mutilation and fire. ^[9] Very difficult and costly to control but is highly likely to be transported internationally deliberately. ^[9]
Plant characteristics	A shrub 3—4 feet high, stoloniferous; the young branches pubescent or hirsute. Leaves oval, sometimes slightly acuminate, glabrous on the upper surface, hairy on the under, particularly along the mid-rib. Racemes erect and straight. Flowers are small. Berries are dark red. Berries are superior in size and flavor compared to <i>P. Virginiana</i> . ^[7] Grows to a height of 40-50 ft. and a trunk of very large size. ^[5] The bark is slightly narcotic, and commonly produces a drowsiness in those who consume it. ^[5] The bark has also been shown by Indians to cure syphilis. ^[5] The tree exudes gum which is said to be equal to gum Arabic. ^[5]
PROPAGATION DETAILS	
Ecotype	Slightly shaded thickets and old open fields
Propagation Goal	Plants
Propagation Method	Seed
Product Type	Bareroot
Stock Type	
Time to Grow	2 years
Target Specifications	A well-developed plant suitable for transplanting by hand with at least 12” top growth and healthy root system. ^[12]
Propagule Collection Instructions	Seed production doesn’t start until 10 years of age. Seeds will be inside the dark red berries. Harvest the berries in the late summer when they change color from red/brown to black. ^[10]
Propagule Processing/Propagule Characteristics	Seed density ranges from 3,100-8100 seeds per pound. ^[11] Seeds can be stored dry for long periods in air tight containers in the refrigerator. ^[10]
Pre-Planting Propagule Treatments	The fruit can be rubbed off under water after harvesting. Large amounts of seed can be collected using the blender method. The seeds have a physiological dormancy which requires a period of cool/moist conditions before germination called stratification. Stratify seeds for 120 days to

	satisfy physiological dormancy. ^[10]
Growing Area Preparation / Annual Practices for Perennial Crops	Growth medium should contain rich, moist soil and a heavy mulch to keep the root zone cool. Can be planted directly into tilled soil during the fall to satisfy the 120 day cold stratification period. ^[12]
Establishment Phase Details	<i>P. serotina</i> should be grown in full sun or partial shade on well-drained, non-compacted soil in a location where it will not receive excessive heat or competition from grasses. ^[12]
Length of Establishment Phase	8 months
Active Growth Phase	Germination happens after the stratification period ends. Radical forms and shoot emerges. ^[12]
Length of Active Growth Phase	6-9 months
Hardening Phase	No hardening phase is required due to direct planting into a natural setting within the fall. Seeds are still dormant when lifted. ^[12]
Length of Hardening Phase	N/A
Harvesting, Storage and Shipping	Seedlings are harvested during the early Spring and placed in barrels with roots covered in moist sawdust until ready to ship. During shipment the roots are bundled together with moist sphagnum to prevent drying out. ^[12]
Length of Storage	1-4 weeks
Guidelines for Outplanting / Performance on Typical Sites	Care should be taken into account during outplanting as the plant contains cyanogenic glycoside which can be fatal to livestock. ^[12] Outplanting should take place at 12" apical stem length within the sunlight because it is a shade-intolerant species. ^[12] Flowering and fruit bearing occurs once the plant reaches 10 years of age. ^[10] Survival is generally very high as this is considered a fast establishing/growing species.
Other Comments	
INFORMATION SOURCES	
References	<p>[1] "Plants Profile for Prunus Serotina (Black Cherry)." <i>United States Department of Agriculture</i>. USDA, n.d. Web. 10 Apr. 2017. <https://plants.usda.gov/cure/profile?symbol=prse2>.</p> <p>[2] Seidemann, Johannes. <i>World Spice Plants: Economic Usage, Botany, Taxonomy</i>. Place of Publication Not Identified: Springer, 2011. 308. Print.</p> <p>[3] Standley, Paul Carpenter. <i>Trees and Shrubs of Mexico</i>. Washington, D.C.: Smithsonian, 1926. Print.</p> <p>[4] Wooton, E. O., and Paul Carpenter Standley. <i>Flora of New Mexico</i>. By E.O. Wooton and Paul C. Standley. Washington: Govt. Print. Off., 1915. Print.</p>

	<p>[5] Kunth, Carl Sigismund. "Prunum." Origin and History of All the Pharmacopeial Vegetable Drugs: 8th and 9th Decennial Revisions (botanical Descriptions Omitted). Vol. 1. Cincinnati: Caxton, 1929. 257.444. Print.</p> <p>[6] Small, John Kunkel. Flora of Lancaster County: Being Descriptions of the Seed-plants Growing Naturally in Lancaster .. N.p.: Hardpress, 2013. 158. Print.</p> <p>[7] Elliott, Stephen. "Class XII." Sketch of the Botany of the Southern States. Vol. 1. Charleston: J.R. Schenk, 1821. 541. Print.</p> <p>[8] Marquis, David A. "Prunus Serotina Ehrh." Northeastern Area State and Private Forestry. N.p., n.d. Web. 14 Apr. 2017. <https://www.na.fs.fed.us/spfo/pubs/silvics_manual/volume_2/prunus/serotina.htm>.</p> <p>[9] "Prunus Serotina (Black Cherry)." Centre for Agriculture and Biosciences International. N.p., n.d. Web. 14 Apr. 2017. <http://www.cabi.org/isc/datasheet/44360#20127202100>.</p> <p>[10] "Black Cherry (Prunus Serotina)." Black Cherry (Prunus Serotina) Department of Horticulture. University of Kentucky, n.d. Web. 15 Apr. 2017. <http://www.uky.edu/hort/propagation-black-cherry>.</p> <p>[11] Pitcher, John A., and Donald E. Dorn. "Geographic Source Differences Noted in Black Cherry Seed Weight, Germination." (n.d.): 1. Web. 14 Apr. 2017.</p> <p>[12] Lester, Randall. "Prunus (serotina)." Reforestation, Nurseries, and Genetics Resources. N.p., n.d. Web. 14 Apr. 2017. <http://hort.ufl.edu/trees/PRUSERA.pdf>.</p> <p>[13] "Native Plant Network — Reforestation, Nurseries and Genetics Resources." Reforestation, Nurseries and Genetics Resources. N.p., n.d. Web. 11 Apr. 2017. <https://npn.rngr.net/renderNPNProtocolDetails?selectedProtocolIds=rosaceae-prunus-3922>.</p>
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Date Protocol Created or Updated	04/10/17