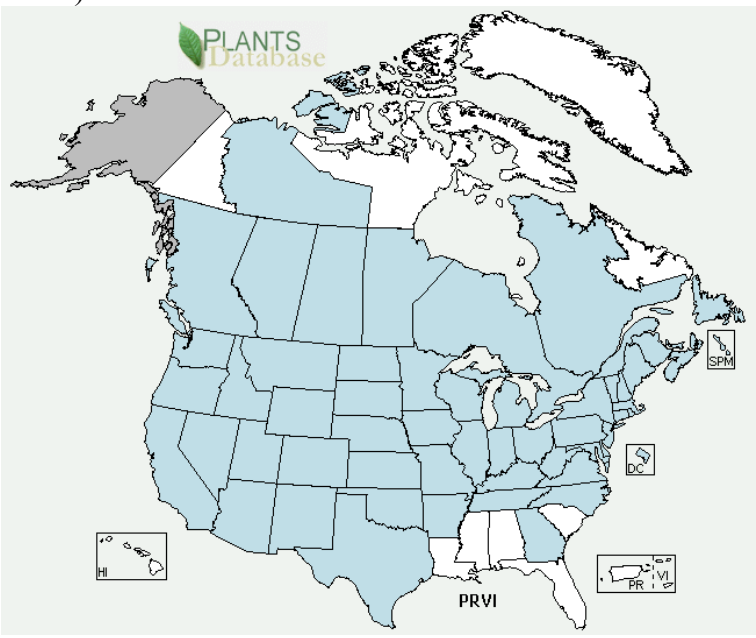
Plant Propagation Protocol for *[Insert Species]*
ESRM 412 – Native Plant Production

TAXONOMY	
Family Names	
Family Scientific Name:	Roseaceae
Family Common Name:	Rose
Scientific Names	
Genus:	*Prunus*
Species:	*virginiana*
Species Authority:	L.
Variety:	n/a
Sub-species:	n/a
Cultivar:	n/a
Authority for Variety/Sub-species:	n/a
Common Synonym(s) (include full scientific names (e.g., *Elymus glaucus* Buckley), including variety or subspecies information)	n/a
Common Name(s):	Chokecherry, Common chokecherry, Western chokecherry, Black chokecherry
Species Code (as per USDA Plants database):	PRVI
GENERAL INFORMATION	
Geographical	Most of the USA, except for the southeast states, Hawai'i and Alaska and the

range (distribution maps for North America and Washington state)	majority Canada; except the arctic circle. See map: (Grey denotes non-native status)  (Unknown 1)
Ecological distribution (ecosystems it occurs in, etc):	Moist woods, stream banks, prairie hillsides, rocky bluffs, roadsides (TWC Staff)
Climate and elevation range	Low to mid elevation, 2000-9000 ft (Wood) (Unknown 5)
Local habitat and abundance; may include commonly associated species	Riparian areas, prairie hillside, conifer forests including Douglas firs, cedar and hemlock, also commonly found near Aspen. In woodlands Chokecherry is also commonly found near or with *Acer saccharum, Claytonia virginica, Fraxinus americana, Geranium maculatum, Osmorhiza claytonii, Parthenocissus quinquefolia, Prunus serotina, Quercus rubra, Sambucus canadensis, Sanicula gregaria, Smilacina racemosa, Tilia americana, Vitis riparia*. (Hough) (Wood) (Rook)
Plant strategy type / successional stage (stress-tolerator, competitor, weedy/colonizer, seral, late	Very tolerant to cold and shade, but not full shade, wild plant that lives in many climates (TWC Staff) (Wood)

successional)	
Plant characteristics (life form (shrub, grass, forb), longevity, key characteristics, etc)	Large deciduous shrub or understory tree, 20-30 ft tall and often growing in thickets. Dense white flowers, red to dark purple fruit, ripens in late August-September. Oval, serrate leaves, 1.5-4 in long, alternate, simple, dark green upper, pale under. Trunk usually no bigger than 6" diameter. (TWC Staff) (Rook) (Seiler, Jensen, Niemiera, and Peterson)
PROPAGATION DETAILS	
Ecotype (this is meant primarily for experimentally derived protocols, and is a description of where the seed that was tested came from):	N/a
Propagation Goal (Options: Plants, Cuttings, Seeds, Bulbs, Somatic Embryos, and/or Other Propagules):	Plants
Propagation Method (Options: Seed or Vegetative):	Can be propagated from seed, dormant hardwood, softwood, semi-hardwood or root cuttings. Be sure to separate suckers from mother plant in the spring. Seeds are the most viable option. (TWC Staff) (Unknown 3)
Product Type (options: Container (plug), Bareroot (field grown), Plug + (container-field grown	Plug

hybrids, and/or Propagules (seeds, cuttings, poles, etc.))	
Stock Type:	Conatiner seedlings in 172 ml conetainers (Luna, Evans, Wick)
Time to Grow (from seeding until plants are ready to be outplanted):	7 months (Luna, Evans, Wick)
Target Specifications (size or characteristics of target plants to be produced):	15 cm, with 7 cm calipers (Luna, Evans, Wick)
Propagule Collection (how, when, etc):	Semi-hardwood and softwood cuttings collected during the summer months tend to do the best. Collect seeds from fully ripened fruit, being sure to clean pulp from seeds and air dry unless you plan to sow them immediately in the fall. Seeds are tan at maturity. Refrigerate until time of cleaning. (TWC Staff) (Luna, Evans, Wick)
Propagule Processing/Propagule Characteristics (including seed density (# per pound), seed longevity, etc):	Seeds are extracted from pulp by maceration using a Dyb-Vig cleaner and screens at NRCS. Seed longevity is 5 to 10 years at 3 to 5 degrees celcius in sealed containers. Seed dormancy is classified as physiological dormancy. Seeds/Kg: 10,500/kg Germination: 80 to 85% when purity is 100% Average 20lbs seed/100lbs fruit (Luna, Evans, Wick)(Unknown 5)
Pre-Planting Propagule Treatments (cleaning, dormancy treatments, etc):	Stratify the seeds in moist sand, preferably in a greenhouse, for two weeks before cold stratifying for 60-90 days (Up to 150). Be sure to plant well before warm season. Do not plant until at you see cracking in at least 50% of seeds. (TWC Staff) (Luna, Evans, Wick)
Growing Area Preparation / Annual Practices for	Should be prepared in a greenhouse for best results. Growing medium used is 70% 6:1:1 milled sphagnum peat, perlite, and vermiculite and 30% sand with Osmocote controlled release fertilizer (13N:13P2O5:13K2O; 8 to 9 month release rate at 21C) and Micromax

Perennial Crops (growing media, type and size of containers, etc):	fertilizer (12%S, 0.1%B, 0.5%Cu, 12%Fe, 2.5%Mn, 0.05%Mo, 1%Zn) at the rate of 1 gram of Osmocote and 0.20 gram of Micromax per 172 ml conetainer. Greenhouse temperatures are maintained at 21 to 25C during the day and 16 to 18C at night. Seedlings should be hand watered and remain in greenhouse until mid May. Seedlings should then be moved to outdoor nursery for the remainder of the growing season. (Luna, Evans, Wick)
Establishment Phase (from seeding to germination):	Cotyledon to true leaf stage is 2 weeks. Seedlings are thinned at this stage. (Luna, Evans, Wick)
Length of Establishment Phase:	4 weeks (Luna, Evans, Wick)
Active Growth Phase (from germination until plants are no longer actively growing):	Rapid growth of seedlings when fertilized, can grow as much as 17cm in first 8 weeks. (Luna, Evans, Wick)
Length of Active Growth Phase:	12 weeks (Luna, Evans, Wick)
Hardening Phase (from end of active growth phase to end of growing season; primarily related to the development of cold-hardiness and preparation for winter):	Fertilized in late summer, irrigation is reduced into the fall and pots are flushed with clean water before winter sets (Luna, Evans, Wick)
Length of Hardening Phase:	4 weeks (Luna, Evans, Wick)
Harvesting, Storage and Shipping (of	7 month harvest time, harvest in September, irrigate before overwintering, and make sure they are in warm greenhouse for overwintering (Luna, Evans, Wick)

seedlings):	
Length of Storage (of seedlings, between nursery and outplanting):	5 months (Luna, Evans, Wick)
Guidelines for Outplanting / Performance on Typical Sites (eg, percent survival, height or diameter growth, elapsed time before flowering):	Young chokecherry does not do well against competition, should not be outplanted until 2-3 years old (Wood)
Other Comments (including collection restrictions or guidelines, if available):	Seeds can contain high levels of hydrogen cyanide, which is very toxic to humans. (Unknown 4)
INFORMATION SOURCES	
References (full citations):	Hough, Michael. "Prunus virginiana." *thismia.com*. N.p., 2005. Web. 16 May 2012. <http://www.thismia.com/P/Prunus_virginiana.html>. Luna, Tara; Evans, Jeff.; Wick, Dale. 2008. Propagation protocol for production of container *Prunus virginiana* L. plants (172 ml conetainers); USDI NPS - Glacier National Park, West Glacier, Montana. In: Native Plant Network. URL: <http://www.nativeplantnetwork.org> (accessed 16 May 2012). Moscow (ID): University of Idaho, College of Natural Resources, Forest Research Nursery. Rook, Earl J.. "Chokecherry, Prunus virginana." *rook.org*. N.p., 31 08 2004. Web. 16 May 2012. <http://www.rook.org/earl/bwca/nature/shrubs/prunusvir.html>. Seiler, John, Edward Jensen, Alex Niemiera, and John Peterson. "Prunus virginiana Fact sheet." *Virginia Tech Dept. of Forest Resources and Environmental Conservation*. Virginia Tech University, 2011. Web.

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Other Sources Consulted (but that contained no pertinent information) (full citations):	Leon, Anastasia. "How to Propagate Chokecherry Tree from Softwood Cuttings." *eHow.com*. Demand Media, inc, 06 07 2011. Web. 16 May 2012. <http://www.ehow.com/how_8695054_propagate-trees-soft-wood-cuttings.html>. Unknown, 2. "Prunus virginiana - (chokecherry) | Ecoplexity." *Ecoplexity*. Portland State University, 2010. Web. 16 May 2012. <http://www.ecoplexity.org/node/933>.
Protocol Author (First and last name):	Zak Hale
Date Protocol Created or Updated	05/15/12

(MM/DD/YY) :	

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