

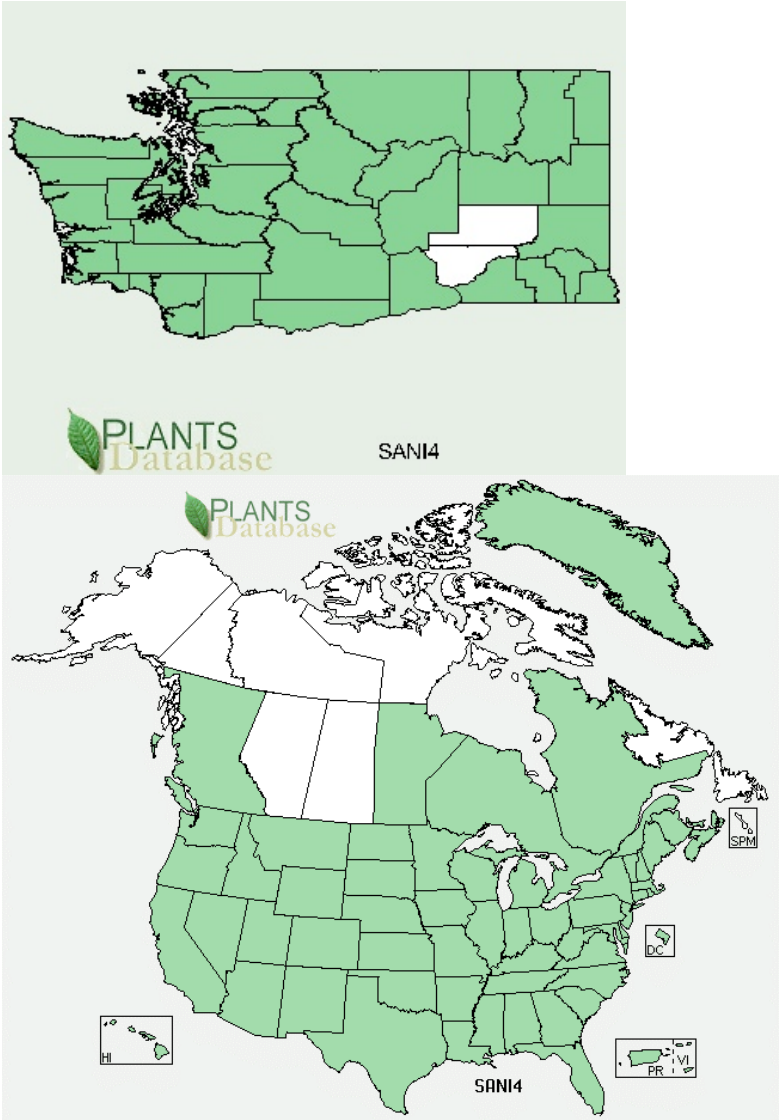
Plant Propagation Protocol for *Sambucus nigra* (black elderberry)

ESRM 412 – Native Plant Production



Photograph from Source 1

TAXONOMY	
Family Names	
Family Scientific Name:	Caprifoliaceae (1)
Family Common Name:	Honeysuckle family (1)
Scientific Names	
Genus:	<i>Sambucus</i> (1)
Species:	<i>Nigra</i> (1)
Species Authority:	L. (1)
Variety:	
Sub-species:	<i>Sambucus nigra</i> L. ssp. <i>canadensis</i> (L.) R. Bolli – American black elderberry <i>Sambucus nigra</i> L. ssp. <i>cerulea</i> (Raf.) R. Bolli – blue elderberry <i>Sambucus nigra</i> L. ssp. <i>nigra</i> – European black elderberry (1)
Cultivar:	Gerda, Black Beauty, Purpurea, Albo-variegata, Marginata (7, 12)
Authority for Variety/Sub-species:	L., R. (see above) (1)
Common Synonym(s) (include full scientific names (e.g., <i>Elymus</i>	None found

<i>glaucus</i> Buckley), including variety or subspecies information)	
Common Name(s):	Elderberry, elder, black elder, common elderberry, European elder, European elderberry, European black elderberry, common Elder, or elder bush (1, 2, 3)
Species Code (as per USDA Plants database):	SANI4 (1)
GENERAL INFORMATION	
Geographical range (distribution maps for North America and Washington state)	 <p>Black cottonwood grows throughout the United States and Canada (1). It also grows in the Caribbean and in Oceania (3).</p>
Ecological distribution (ecosystems it occurs in,	Black elderberry grows in medium wet, soils with high drainage; it

etc):	prefers full sun and some shade (4, 5). It also prefers soils high in humus with some sand and some clay (4, 5). Black elderberry grows in temperate regions that meet these needs (4).
Climate and elevation range	Black elderberry can grow in temperate climates; it prefers sun to rain, but does well in rainy climates (4). It grows in elevations from 6,000 to 12,000 feet (6).
Local habitat and abundance; may include commonly associated species	Black elderberry grows well in areas that are higher in sunlight than in shade; these areas are common in California where black elderberry is known to grow quite well (6, 11). Black elderberry may be found in wetlands, but it does not usually survive well in wetland areas (6).
Plant strategy type / successional stage (stress-tolerator, competitor, weedy/colonizer, seral, late successional)	Black elderberry is an understory species that grows in lodgepole pine forests, subalpine forests, and alpine fell-fields (6).
Plant characteristics (life form (shrub, grass, forb), longevity, key characteristics, etc)	The Kemper Center for Home Gardening offers a very detailed description of black elderberry: “It is particularly noted for its dark purple foliage and its lemon-scented, pink flowers. It is a large, upright, deciduous shrub that typically matures to 8-15’ tall. Height after 8 years is about 10’ tall unless pruned shorter. Compound pinnate leaves (3-7 ovate to elliptic leaflets each) are dark purple and generally retain that color throughout most of the growing season. Young stems are also purple, with older branches being a rough, gray-brown. Tiny pink flowers appear in large flattened cymes (to 10” across) in June. Flowers emit a lemony aroma. Flowers give way to clusters of black elderberry fruits in late summer” (4).
PROPAGATION DETAILS	
Ecotype (this is meant primarily for experimentally derived protocols, and is a description of where the seed that was tested came from):	An appropriate ecotype would be found in the aforementioned areas, climates, and elevations.
Propagation Goal (Options: Plants, Cuttings, Seeds, Bulbs, Somatic Embryos, and/or Other Propagules):	Plant, shrub (1)
Propagation Method (Options: Seed or Vegetative):	Seed (1)

Product Type (options: Container (plug), Bareroot (field grown), Plug + (container-field grown hybrids, and/or Propagules (seeds, cuttings, poles, etc.))	Black elderberry may grow from seeds or cuttings (4, 11).
Stock Type:	No stock type information could be found.
Time to Grow (from seeding until plants are ready to be outplanted):	Seeds are best sown in the early autumn when they ripen; they will germinate by the spring (10, 11). Seedlings may be moved into individual pots when they appear large enough, which occurs in the early summer (11). It takes about six to nine months for this to occur.
Target Specifications (size or characteristics of target plants to be produced):	Seedlings should be seven to 10 cm in length before they are planted in permanent positions (8, 11).
Propagule Collection (how, when, etc):	Seeds may be collected from the fruits of the black elderberry shrub in the summer when the seeds ripen (11).
Propagule Processing/Propagule Characteristics (including seed density (# per pound), seed longevity, etc):	Seeds should survive a few years if placed in sealed envelopes within plastic bags and placed in a botanical freezer (13). Remove seeds from freezer a few weeks before planting (13).
Pre-Planting Propagule Treatments (cleaning, dormancy treatments, etc):	Seed will germinate better if stratified warm stratification for two months and then 2 more months of cold stratification (8, 9, 10).
Growing Area Preparation / Annual Practices for Perennial Crops (growing media, type and size of containers, etc):	The growing medium of the plant should be moist, well-aerated, clay-rich soils (11). For perennial crops, black elderberry needs to be fertilized at least every few years, and nutrient testing kits will help with monitoring the nutrient content of the soil (5). Plants also need to be in areas with plenty of sunlight, so obstructions such as taller trees that may overshadow the plants should be monitored (5).
Establishment Phase (from seeding to germination):	The establishment phase begins in the autumn when the ripened seed is sown and ends in the early spring when the seed germinates (11).
Length of Establishment Phase:	This takes approximately four to six months (11).
Active Growth Phase (from germination until plants are no longer actively growing):	The active growth phase is in every spring and summer (5, 11).
Length of Active Growth Phase:	The active growth phase lasts approximately six months during the spring and summer months. (5, 11).

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):	The hardening phase occurs in the winter when the plant stops growing for the year (5, 11).
Length of Hardening Phase:	The hardening phase is approximately six months during the fall and winter months (5, 11).
Harvesting, Storage and Shipping (of seedlings):	Seeds may be harvested in the early to late summer when the flowers bloom; seeds should be dried and stored in airtight envelopes that are then placed in plastic bags (5, 13).
Length of Storage (of seedlings, between nursery and outplanting):	Seedlings should be stored in a nursery from the autumn when they are planted until the summer, which is approximately eight to 11 months (11).
Guidelines for Outplanting / Performance on Typical Sites (eg, percent survival, height or diameter growth, elapsed time before flowering):	Black elderberry is a rapid-growing plant, but has a variable range of time spans for when it can be outplanted; it requires careful monitoring to decide when the seedling is ready to be outplanted, usually when it's about seven to 10 cm in length (8, 11, 12). Black elderberry is usually quite resilient in a variety of different ecosystems despite its preference for sunlight and moist, humus-rich soils (4, 5).
Other Comments (including collection restrictions or guidelines, if available):	

INFORMATION SOURCES

References (full citations):	<p>1. Plant Profile: Black Elderberry. USDA Plants Database. May 7, 2009. http://plants.usda.gov/java/profile?symbol=SANI4.</p> <p>2. "<i>Sambucus nigra</i>." Wikipedia. May 8, 2009. http://en.wikipedia.org/wiki/Sambucus_nigra#cite_note-1.</p> <p>3. "<i>Sambucus nigra</i> L." Integrated Taxonomic Information System. May 8, 2009. http://www.itis.gov/servlet/SingleRpt/SingleRpt?search_topic=TSN&search_value=35324.</p> <p>4. "<i>Sambucus nigra</i> 'Gerda' BLACK BEAUTY." Kemper Center for Home Gardening. May 8, 2009. http://www.mobot.org/gardeninghelp/plantfinder/Plant.asp?code=B878.</p> <p>5. "<i>Sambucas nigra</i>." Backyard Gardener resources. May 9, 2009.</p>
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	<p>http://www.backyardgardener.com/plantname/pda_9df4.html.</p> <p>6. "Black elderberry." Claflora. May 9, 2009. http://www.calflora.org/cgi-bin/species_query.cgi?where-calrecnum=7319.</p> <p>7. "Black Beauty 'Gerda'" Black Elderberry. Paghat Gardener's Information. May 9, 2009. http://www.paghat.com/elderblackbeauty.html.</p> <p>8. Sheat, W. G. <i>Propagation of Trees, Shrubs and Conifers</i>. MacMillan and Co. <i>Nature</i> 163, 45-46 (08 January 1949). Found on-line at http://www.nature.com/nature/journal/v163/n4132/pdf/163045b0.pdf.</p> <p>9. Gordon, A. G. and Rowe, D. C. <i>Seed Manual for Ornamental Trees and Shrubs</i>. London: Forestry Commission, 1982.</p> <p>10. Dirr, M. A. and Heuser, M. W. <i>The Reference Manual of Woody Plant Propagation</i>. Athens: Varsity Press, 1987.</p> <p>11. "American Elder." Plants for a Future Database. May 9, 2009. http://www.pfaf.org/database/plants.php?Sambucus+Canadensis.</p> <p>12. "Plant Profile [of Black Elderberry]." North Carolina State University College of Agriculture and Life Science. May 9, 2009. http://www.ces.ncsu.edu/depts/hort/consumer/factsheets/shrubs/sambucus_nigra.html.</p> <p>13. "The Need for Seed." Victory Seed Company. May 9, 2009. http://www.victoryseeds.com/information/brook_seed_saving.html.</p>
Other Sources Consulted (but that contained no pertinent information) (full citations):	<p>1. Christine Haughton. "Sambucus nigra L." Purple Sage Botanicals. May 8, 2009. http://www.purplesage.org.uk/profiles/elder.htm.</p> <p>2. "European Black Elderberry – Plant Information." Garden Guides. May 9, 2009. http://www.gardenguides.com/plants/plant.asp?symbol=SANI4.</p>
Protocol Author (First and last name):	Andrew Lurker
Date Protocol Created or Updated (MM/DD/YY):	May 9, 2009

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