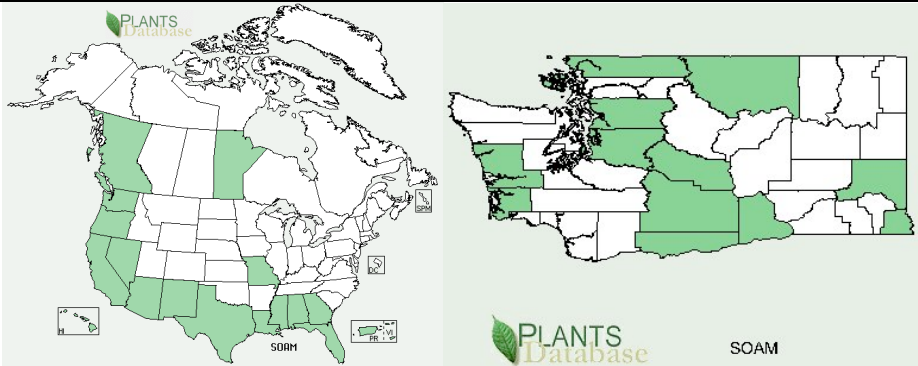


**Plant Propagation Protocol for *Solanum americanum***  
ESRM 412 – Native Plant Production




(Picture obtained from source 11)

TAXONOMY	
Family Names	
Family Scientific Name:	Solanaceae
Family Common Name:	Potato family
Scientific Names	
Genus:	<i>Solanum</i>
Species:	<i>americanum</i>
Species Authority:	Mill.
Variety:	
Sub-species:	
Cultivar:	
Authority for Variety/Sub-species:	
Common Synonym(s)	<i>Solanum americanum</i> Mill. var. <i>nodiflorum</i> (Jacq.) Edmonds <i>Solanum americanum</i> Mill. var. <i>patulum</i> (L.) Edmonds <i>Solanum caribaeum</i> Dunal <i>Solanum fistulosum</i> Dunal ex Poir. <i>Solanum hermannii</i> Dunal <i>Solanum linnaeanum</i> Hepper & P.-M L. Jaeger

	<p><i>Solanum nigrum</i> L. var. <i>americanum</i> (Mill.) O.E. Schulz</p> <p><i>Solanum nigrum</i> L. var. <i>virginicum</i> L.</p> <p><i>Solanum nodiflorum</i> Jacq.</p> <p><i>Solanum sodomaeum</i> auct. non L.</p> <p>(Taxonomic data obtained from source 1)</p>
Common Name(s):	<p>American black nightshade (1)</p> <p>Small flowered nightshade (2)</p> <p>Common nightshade (2)</p> <p>White nightshade (2)</p>
Species Code (USDA):	SOAM
<b>GENERAL INFORMATION</b>	
Geographical range	 <p>Green represents presence of species White represents absence of species (Map obtained from source 1)</p>
Ecological distribution:	<p>Equally likely to occur in wetland or non wetland (2)</p> <p>Wetland-riparian (2)</p> <p>Disturbed areas (2)</p> <p>Widely naturalized in tropics (3)</p> <p>Open ground, open woods, cultivated areas (4)</p> <p>Rocky areas, thickets, shores, waste grounds (6)</p>
Climate and elevation range	0-3280 feet (2)
Local habitat and abundance; may include commonly associated species	Distributed on both sides of the cascades in Washington. Can be weedy or invasive (5)
Plant strategy type /	<p>Weedy and invasive (1,2,3)</p> <p>Annual or perennial subshrub (2,4,5,7)</p>

successional stage:	Utilize disturbed areas (3,7) Very reliant on effective seed dispersal for survival (8)
Plant characteristics:	<p>Grow to about 76cm -3m high (6,7,10)</p> <p>Flowers: few-flowered lateral clusters of small, white, star-like, drooping flowers (4) and also perfect (6). Stem: smooth and green (4) Leaves: Leaves are green above and below, glabrous to fuzzy, oval in shape, petioled, and either smooth-edged or edged with large, rounded teeth (7) Berries: Berries are green and speckled with white when immature, when fully ripe turns deep purple to black (8)</p> <p>Special Characterisitics: Leaves and immature fruit are toxic (3,6,7) Contain the glycoalkaloid solanine as well as tropane alkaloids scopolamine (hysocine) and hyoscyamine (7)</p>
<b>PROPAGATION DETAILS</b>	
Ecotype:	N/A
Propagation Goal:	N/A
Propagation Method:	<p>Sow in spring in a greenhouse, then prick the seedlings into individual pots, plant after danger of frost has passed (6)</p> <p>Can be generated from rootstock, capacity to do so vary from species to species (8)</p>
Product Type:	Can range anywhere from individual pots and containers, to sowing seeds directly into the ground (8)
Stock Type:	N/A
Time to Grow (from seeding until plants are ready to be outplanted):	Plant matures 5-7 weeks (8)
Target Specifications:	<p>Plants can reach up to 1 m in height.</p> <p>Seedling characteristics:</p> <ul style="list-style-type: none"> <li>Cotyledons narrowly ovate to lanceolate with acute tips. They are 4-10 mm long, 1-3 mm wide. (8 for similar species <i>Solanum nigrum</i>)</li> </ul>

<p>Propagule Collection:</p>	<p>The nightshade plants have tomato like berries that can contain 50-110 seeds each (8)</p>  <p>(Picture obtained from source 11)</p> <p>Collection times: March through November, with highest yield later in the year (10)</p>
<p>Propagule Processing/Propagule Characteristics:</p>	<p>Separated from the fruits, seeds are capable of germinating. The seeds are cold intolerant, and temperatures above 45° C (113° F) can kill imbibed seeds.</p> <p>Seeds retain ~90% viability for up to ~6 years under field conditions, but can last up to 8 years.</p> <p>(8, for similar species <i>Solanum nigrum</i>)</p> <p>Can produce 50-100 berries per plant, each berry containing numerous seeds (50-110)</p> <p>(Information obtained from source 8)</p>
<p>Pre-Planting Propagule Treatments:</p>	<p>In the seeds survive ingestion by animals and is dispersed that way (6) so acid stratification may promote germination.</p> <p>Seeds often have a short dormancy period of a few months once separated from fruits. Seed exposed to high temperature may undergo secondary dormancy period (8, for similar species <i>Solanum physalifolium</i>)</p> <p>Light seem to stimulate germination (8)</p>
<p>Growing Area Preparation / Annual Practices for Perennial Crops:</p>	<p>Plant preferences (6)</p> <ul style="list-style-type: none"> <li>• Light sandy soil</li> <li>• Medium loamy soil</li> <li>• Heavy clay soils</li> <li>• Need to be well drained</li> <li>• Acid, neutral, and basic soils</li> </ul> <p>Sunlight (9)</p> <ul style="list-style-type: none"> <li>• Direct sunlight</li> <li>• Shade intolerant (6)</li> </ul>

	<ul style="list-style-type: none"> <li>• Avoid temperatures less than 15° C</li> </ul> <p>Irrigation (9)</p> <ul style="list-style-type: none"> <li>• Water every 2-3 weeks, with 1-2 buckets of water if grown in the ground</li> <li>• If grown in a pot water more often, do not leave the substratum soaked with water</li> </ul> <p>Fertilizer</p> <ul style="list-style-type: none"> <li>• Use fertilizer rich in nitrogen and potassium</li> <li>• Add to water every 20-25 days</li> </ul> <p>Miscellaneous</p> <ul style="list-style-type: none"> <li>• Will do well in most conditions (6)</li> <li>• May want to cover root with straw or leaves to protect against cold temperatures (9)</li> </ul>
Establishment Phase (from seeding to germination):	Most seeds germinate spring-summer (8)
Length of Establishment Phase:	N/A
Active Growth Phase:	Seedlings mature in 5-7 weeks (8)
Length of Active Growth Phase:	Plant can act as either annual or perennial.
Hardening Phase:	N/A
Length of Hardening Phase:	N/A
Harvesting, Storage and Shipping:	Weedy plant, considered noxious in some areas. The seeds can last up to 6 years under correct conditions (8)
Length of Storage:	Seedlings mature 5-7 weeks (8) they can be annual or perennial (8)
Guidelines for Outplanting / Performance on Typical Sites:	<p>Blooms in: Jun, Jul, Aug, Sep, Oct, and Nov (4) or whenever conditions are right (7)</p> <p>Outplanting should be done in late spring sheltered from the wind (9)</p> <p>Will succeed in most soils and conditions (6)</p>
Other Comments:	There are accounts of plant being both toxic and non-toxic. Through my research there is overwhelmingly more evidence for toxicity than non-toxicity for this plant.
<b>INFORMATION SOURCES</b>	
References:	1) "Plants Profile: Solanum americanum Mill.". USDA. 05/19/2010

<<http://plants.usda.gov/java/profile?symbol=SOAM>>.

2) [Calflora](#): Information on California plants for education, research and conservation, based on data contributed by the Consortium of Calif. Herbaria and dozens of other public and private institutions and individuals. [web application]. 2010. Berkeley, California: The Calflora Database [a non-profit organization]. Available: <http://www.calflora.org/> (Accessed: May 19, 2010).

3) USDA, ARS, National Genetic Resources Program.  
*Germplasm Resources Information Network - (GRIN)* [Online Database].  
National Germplasm Resources Laboratory, Beltsville, Maryland.  
URL: <http://www.ars-grin.gov/cgi-bin/npgs/html/taxon.pl?100795> (19 May 2010)

4) "Solanum americanum Miller". Lady Bird Johnson Wildflower Center.  
05/19/2010 <[http://www.wildflower.org/plants/result.php?id\\_plant=SOAM](http://www.wildflower.org/plants/result.php?id_plant=SOAM)>.

5) "Solanum americanum ". WA Native Plant Society. 05/19/2010 <  
<http://biology.burke.washington.edu/herbarium/imagecollection.php?Genus=Solanum&Species=americanum>>.

6) "Solanum americanum - Mill. American Nightshade ". Plants For A Future.  
05/19/2010 <<http://www.pfaf.org/database/plants.php?Solanum+americanum>>.

7) Beth, Kinsey. "Solanum americanum - American Black Nightshade ".  
Southeastern Arizona Wildflowers. 05/19/2010  
<<http://www.fireflyforest.com/flowers/2364/solanum-americanum-american-black-nightshade/>>.

8) "American black nightshade". California Department of Food and  
Agriculture. 05/19/2010  
<<http://www.cdfa.ca.gov/phpps/ipc/weedinfo/solanum-americanum.htm>>.

9) "Solanum americanum Solanum nodiflorum Jacq.". 05/19/2010 <  
[http://www.gardening.eu/arc/plants/Shrubs/Solanum-nodiflorum-Jacq/65154/stamp\\_a.asp](http://www.gardening.eu/arc/plants/Shrubs/Solanum-nodiflorum-Jacq/65154/stamp_a.asp)>.

10) "Consortium of California Herbaria". University of California Berkely.  
05/19/2010 <[http://ucjeps.berkeley.edu/cgi-bin/get\\_consort.pl](http://ucjeps.berkeley.edu/cgi-bin/get_consort.pl)>.

11) "American Black Nightshade (Solanum americanum)". 05/19/2010  
<<http://2bnthewild.com/03869.jpg>>. (picture)

Other Sources Consulted:	<p>"Solanum Americanum". Institute for systematic botany. 05/19/2010 &lt;<a href="http://www.florida.plantatlas.usf.edu/Plant.aspx?id=870">http://www.florida.plantatlas.usf.edu/Plant.aspx?id=870</a>&gt;.</p> <p>"Solanum Americanum". Flora of North America. 05/19/2010 &lt;<a href="http://www.efloras.org/browse.aspx?flora_id=1&amp;name_str=Solanum%20americanum">http://www.efloras.org/browse.aspx?flora_id=1&amp;name_str=Solanum%20americanum</a>&gt;.</p> <p>Polistes Corporation, "Solanum Americanum Mill.". Discover Life. 05/19/2010 &lt;<a href="http://www.discoverlife.org/mp/20q?search=Solanum+americanum">http://www.discoverlife.org/mp/20q?search=Solanum+americanum</a>&gt;.</p>
Protocol Author (First and last name):	Kevin Nguyen
Date Protocol Created or Updated (MM/DD/Y Y):	May/19/2010

Note: This template was modified by J.D. Bakker from that available at:  
<http://www.nativeplantnetwork.org/network/SampleBlankForm.asp>