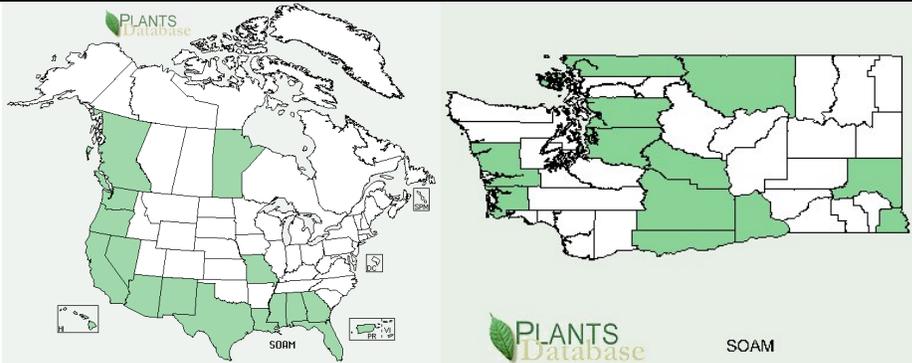


**Plant Propagation Protocol for [*Solanum americanum*]
ESRM 412 – Native Plant Production**



(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 <i>Solanum nigrum</i> L. var. <i>virginicum</i> L. <i>Solanum nodiflorum</i> Jacq. <i>Solanum sodomeum</i> auct. non L.</p> <p>(Taxonomic data obtained from source 1)</p>
Common Name(s):	<p>American black nightshade (1) Small flowered nightshade (2) Common nightshade (2) White nightshade (2)</p>
Species Code (USDA):	SOAM
GENERAL INFORMATION	
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) Wetland-riparian (2) Disturbed areas (2) Widely naturalized in tropics (3) Open ground, open woods, cultivated areas (4) 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) 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:	Grow to about 76cm -3m high (6,7,10) 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) 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)
PROPAGATION DETAILS	
Ecotype:	N/A
Propagation Goal:	N/A
Propagation Method:	Sow in spring in a greenhouse, then prick the seedlings into individual pots, plant after danger of frost has passed (6) Can be generated from rootstock, capacity to do so vary from species to species (8)
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:	Plants can reach up to 1 m in height. Seedling characteristics: <ul style="list-style-type: none"> 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>)

<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"> • Light sandy soil • Medium loamy soil • Heavy clay soils • Need to be well drained • Acid, neutral, and basic soils <p>Sunlight (9)</p> <ul style="list-style-type: none"> • Direct sunlight • Shade intolerant (6)

	<ul style="list-style-type: none"> • Avoid temperatures less than 15° C <p>Irrigation (9)</p> <ul style="list-style-type: none"> • Water every 2-3 weeks, with 1-2 buckets of water if grown in the ground • If grown in a pot water more often, do not leave the substratum soaked with water <p>Fertilizer</p> <ul style="list-style-type: none"> • Use fertilizer rich in nitrogen and potassium • Add to water every 20-25 days <p>Miscellaneous</p> <ul style="list-style-type: none"> • Will do well in most conditions (6) • May want to cover root with straw or leaves to protect against cold temperatures (9)
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.
INFORMATION SOURCES	
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>.

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>.

10) "Consortium of California Herbaria". University of California Berkely. 05/19/2010 <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 <http://www.florida.plantatlas.usf.edu/Plant.aspx?id=870>.</p> <p>"Solanum Americanum". Flora of North America. 05/19/2010 <http://www.efloras.org/browse.aspx?flora_id=1&name_str=Solanum%20americanum>.</p> <p>Polistes Corporation, "Solanum Americanum Mill.". Discover Life. 05/19/2010 <http://www.discoverlife.org/mp/20q?search=Solanum+americanum>.</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>