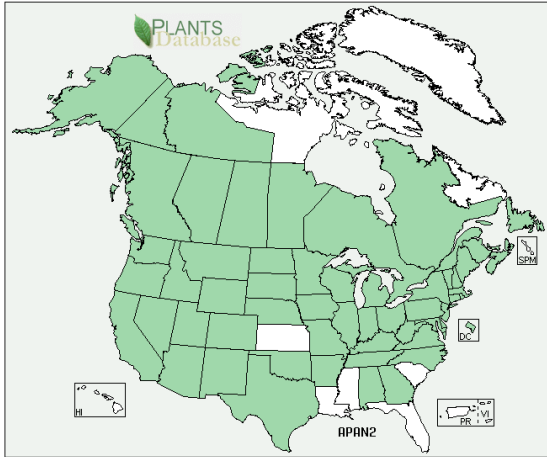
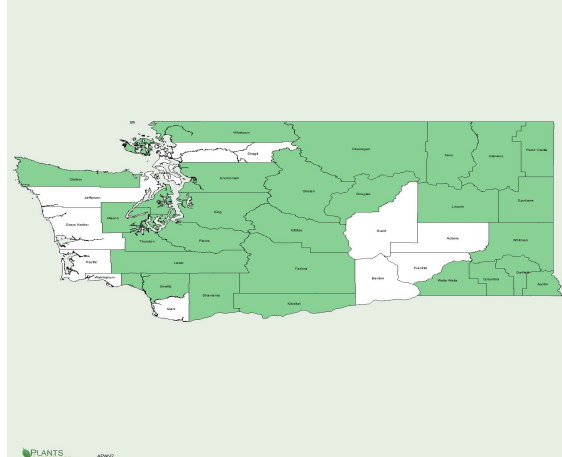


Plant Propagation Protocol for *Apocynum androsaemifolium*
 ESRM 412 – Native Plant Production

North America Distribution Map



Washington State Distribution Map



Source: USDA PLANTS Database¹¹

TAXONOMY	
Family Names	
Family Scientific Name:	Apocynaceae ^{1, 13}
Family Common Name:	Dogbane family ^{1, 13}
Scientific Names	
Genus:	<i>Apocynum</i>
Species:	<i>androsaemifolium</i>
Species Authority:	L.
Variety:	N/A
Sub-species:	N/A
Cultivar:	N/A
Authority for Variety/Sub-species:	N/A
Common Synonym(s)	APAM2 <i>Apocynum ambigens</i> Greene ¹¹ APANP <i>Apocynum androsaemifolium</i> L. ssp. <i>pumilum</i> (A. Gray) B. Boivin ¹¹ APANG2 <i>Apocynum androsaemifolium</i> L. var. <i>glabrum</i> Macoun ¹¹ APANG4 <i>Apocynum androsaemifolium</i> L. var. <i>griseum</i> (Greene) Bég. & Beloserky ¹¹ APANI3 <i>Apocynum androsaemifolium</i> L. var. <i>incanum</i> A. DC. ^{5, 11} APANI2 <i>Apocynum androsaemifolium</i> L. var. <i>intermedium</i> Woodson ¹¹ APANP3 <i>Apocynum androsaemifolium</i> L. var. <i>pumilum</i> A. Gray ¹¹ APANT2 <i>Apocynum androsaemifolium</i> L. var. <i>tomentellum</i>

	(Greene) B. Boivin ¹¹ APANW2 <i>Apocynum androsaemifolium</i> L. var. <i>woodsonii</i> B. Boivin ¹¹ APPU <i>Apocynum pumilum</i> (A. Gray) Greene ¹¹ APPUR <i>Apocynum pumilum</i> (A. Gray) Greene var. <i>rhomboideum</i> (Greene) Bég. & Beloserky ¹¹ APSC <i>Apocynum scopulorum</i> Greene ex Rydb. ¹¹
Common Name(s):	Spreading dogbane ^{5, 7, 10, 11} Bitterroot ^{5, 11} Flytrap dogbane ^{5, 11}
Species Code:	APAN2 (USDA)
GENERAL INFORMATION	
Geographical range (distribution maps for North America and Washington state)	USA (AK, AL, AR, AZ, CA, CO, CT, DC, DE, GA, IA, ID, IL, IN, KY, MA, MD, ME, MI, MN, MO, MT, NC, ND, NE, NH, NJ, NM, NV, NY, OH, OK, OR, PA, RI, SD, TN, TX, UT, VA, VT, WA, WI, WV, WY) ¹¹ CAN (AB, BC, MB, NB, NF, NS, NT, ON, PE, QC, SK, YT) ¹¹
Ecological distribution (ecosystems it occurs in, etc):	Prefers dry, open, well drained, sunny sites- able to grow in shade. ^{4, 5, 7, 8, 10} Found on open hillsides, ridges, fields, meadows, open/dry woods, roadsides, prairies, thickets, abandoned homesteads, over utilized sites and along waterways. ^{2, 7, 8, 10}
Climate and elevation range	Found from low elevations (sea level) to subalpine (11,000 ft) ^{7, 8, 10}
Local habitat and abundance;	No information available
Plant strategy type / successional stage:	Prosperes after disturbance such as fire and logging. ⁹
Plant characteristics:	Perennial forb ¹¹ General Characteristics: 1-3 ft rhizomatous bushy perennial; produces multiple leafy, simple or branched, often reddish, stems. Possesses white milky sap. ^{5, 6, 7, 8} Leaves: Opposite, narrowly oval to elliptic or oblong/lanceolate on short petioles. Leaves are 3-8 cm, simple, pinnate, and entire. Leaves are either yellow-green in color and hairless or green and hairless above and paler and glandular on the underside. ^{5, 6, 7, 8} Flowers: Pink or whitish with pink veins, fragrant with a scent reminiscent of lilacs, bell-shaped with flaring lobes. Small (5-8 mm long); bloom in small clusters from stem tips and lateral

	<p>shoots in late summer/early fall. ^{5, 6, 7, 8}</p> <p>Fruit: Very long (5-20 cm) paired, skinny cylindrical pods. Each pod with multiple seeds and each seed has a coma (tuft of long white hairs). ^{5, 6, 7, 8, 13}</p> <p>Forms a natural hybrid with <i>Apocynum cannabinum</i> called <i>Apocynum x floribundum</i>.⁸</p> <p>Has been noted to occasionally become weedy and/or invasive.¹²</p>
PROPAGATION DETAILS	
SEED	
Ecotype:	N/A
Propagation Goal:	Plants
Propagation Method:	Seed
Product Type:	Container (plug)
Stock Type:	No information available
Time to Grow:	No information available
Target Specifications:	No information available
Propagule Collection:	Collect seeds by hand in the fall
Propagule Processing/Propagule Characteristics:	<p>Seed longevity: No information available</p> <p>Seed dormancy: Physiological ³</p> <p>Method 1: Dry seeds for 1-2 weeks in open paper bags or open Rubbermaid-style bins, shaking or turning seed heads as time passes. Once seeds have dried, begin stratification. ⁹</p> <p>Method 2: Process seeds using a Westrup Model LA-H laboratory brush machine, with a #10 mantel at medium speed. Next air screen the seeds using an office Clipper, with a top screen: #5 triangle and a bottom screen: 50 x 50 wire at medium speed with low air. ¹</p> <p>Seeds per pound: 334,117 ¹</p> <p>Purity: 92% ¹</p>
Pre-Planting Propagule Treatments:	<p>Dormancy treatment</p> <p>Cold stratification: 1-2 months at 33-38°F ^{1, 3, 9,}</p> <p>Mix seeds in to a moist soil media mix of 1:1 vermiculite and perlite. Put mixture into a Ziploc-style bag or Rubbermaid-style containers. Seal the container and store container in a cool dry place (refrigerator or cold garage) for the desired duration. Seeds can be cold stored for up to 3 years. ⁹</p>
Growing Area Preparation / Annual Practices for	Propagation Environment: Greenhouse with continuous air circulation and temperature control. ⁹

Perennial Crops:	<p>Growing media: Scotts Redi-earth Plug and Seedling Mix, contains vermiculite and sphagnum peat moss.⁹</p> <p>Container: Best success in 24 cell (2" diameter) 14"x8.5"x4" deep flats. Avoid deep and narrow plug cells.⁹</p> <p>Container Preparation: Cover holes in the bottom/sides of the plug trays to prevent soil from falling out. Fill cells with damp growing media and press down with a spoon. Fill remaining space of cells with additional soil, not pressing down this time. Water the soil of plug cells. Sow seeds by hand with 3 seeds in each cell. Cover the seeds with a thin amount soil.⁹</p>
Establishment Phase:	<p>Optimal germination temperature is 18-21.³</p> <p>Water using a fine mist or light hose setting only.⁹</p>
Length of Establishment Phase:	No information available
Active Growth Phase:	Soil does not need be consistently moist. After germination, move trays to a cooler location in greenhouse. In early-late spring, move more mature plants to a cold frame/hoop house for additional growth. ⁹
Length of Active Growth Phase:	No information available
Hardening Phase:	When danger of frost has passed move fully mature plants outside. Water less frequently. ⁹
Length of Hardening Phase:	No information available
Harvesting, Storage and Shipping:	Transport flats with mature plants to the field during the spring and fall. Leave plants in greenhouse during the summer. ⁹
Length of Storage:	No information available
Guidelines for Outplanting / Performance on Typical Sites:	No information available
Other Comments:	Plugs are somewhat delicate and difficult to transplant (Shultz protocol). Due to its rapid spreading nature, <i>A. androsaemifolium</i> should not be grown in small yards or gardens. ^{5,9}
PROPAGATION DETAILS DIVISION	
Ecotype:	N/A
Propagation Goal:	Plants
Propagation Method:	Divisions
Product Type:	Bareroot

Stock Type:	No information available
Time to Grow:	No information available
Target Specifications:	No information available
Propagule Collection:	Divide the rhizomes of well developed plants in winter or early spring. ⁸
Propagule Processing/Propagule Characteristics:	No information available
Pre-Planting Propagule Treatments:	No information available
Growing Area Preparation / Annual Practices for Perennial Crops:	No information available
Establishment Phase:	No information available
Length of Establishment Phase:	No information available
Active Growth Phase:	No information available
Length of Active Growth Phase:	No information available
Hardening Phase:	No information available
Length of Hardening Phase:	No information available
Harvesting, Storage and Shipping:	No information available
Length of Storage:	No information available
Guidelines for Outplanting / Performance on Typical Sites	No information available
Other Comments:	No information available
INFORMATION SOURCES	
References (full citations):	<p>¹ Barner, J. 2009. Propagation protocol for production of <i>Apocynum androsaemifolium</i> L. seeds; USDA FS - R6 Bend Seed Extractory, Bend, Oregon. In: Native Plant Network. URL: http://www.nativeplantnetwork.org (accessed 13 May 2012). Moscow (ID): University of Idaho, College of Natural Resources, Forest Research Nursery.</p> <p>² Baskin, C.C., Baskin, J.M. 2002. Propagation protocol for production of container <i>Apocynum androsaemifolium</i> L. plants; University of Kentucky, Lexington, Kentucky. In: Native Plant Network. URL: http://www.nativeplantnetwork.org (accessed 13 May 2012). Moscow (ID): University of Idaho, College of Natural Resources, Forest Research Nursery.</p>

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	<p>Accessed on May 14 2012.</p> <p>¹² Whitson, T.D. (ed.) et al. 1996. <i>Weeds of the West</i>. Western Society of Weed Science in cooperation with Cooperative Extension Services, University of Wyoming. Laramie, Wyoming.</p> <p>¹³ Young, J.A., Young, C.G. 1986. <i>Collecting, Processing and Germinating Seeds of Wildland Plants</i>. Timber Press: Portland, OR</p>
Other Sources Consulted:	<p>Pettinger, A., Costanzo, B. 2002. <i>Native Plants in the Coastal Garden</i>. Timber Press: Portland, OR</p> <p>Taylor, T.J. and Douglas, G.W. 1995. <i>Mountain Plants of the Pacific Northwest</i>. Mountain Press Publishing Company: Missoula, Montana.</p>
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Date Protocol Created or Updated:	May 15, 2012

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