

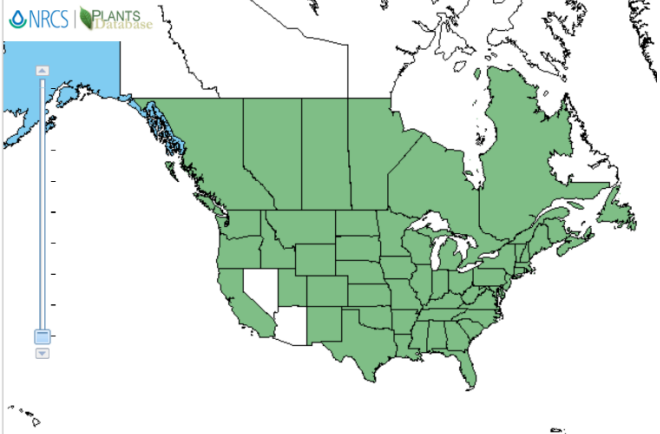
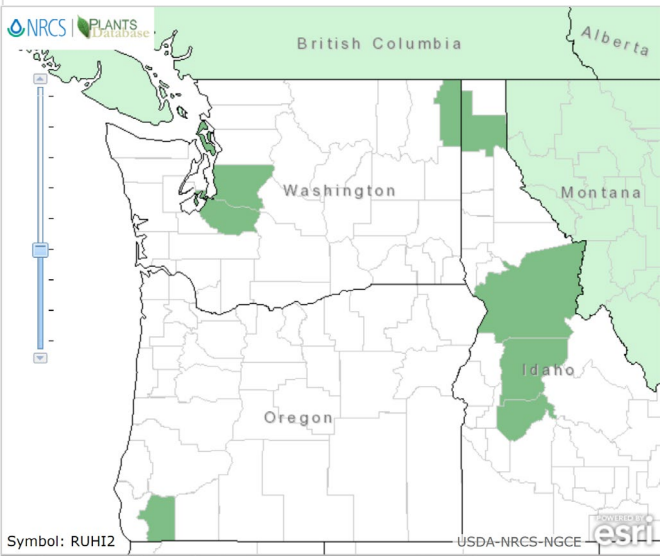
Plant Propagation Protocol for *Rudbeckia hirta* L.
ESRM 412 – Native Plant Production



Photo courtesy of Merel R. Black (9)

TAXONOMY	
Plant Family	
Scientific Name	Asteraceae
Common Name	Aster; Sunflower; Coneflower
Species Scientific Name	
Scientific Name	<i>Rudbeckia hirta</i> L.
Varieties	var. <i>angustifolia</i> Perdue var. <i>floridana</i> Perdue var. <i>brittonii</i> Fernald var. <i>monticola</i> Fernald var. <i>pulcherrima</i> Farw. var. <i>corymbifera</i> Fernald var. <i>lanceolata</i> Core var. <i>sericea</i> Fernald var. <i>serotina</i> Core
Sub-species	N/A

Cultivar	N/A
Common Synonym(s)	N/A
Common Name(s)	blackeyed Susan
Species Code (as per USDA Plants database)	RUHI2

GENERAL INFORMATION	
Geographical range	  <p>Symbol: RUHI2 USDA-NRCS-NGCE esri</p>
Ecological distribution	Shade intolerant, medium-fine textured, well drained soils, can be winter hardy where lows are between -30 and -20 F. Occurs commonly on disturbed soil areas, open meadows and along roads. (2)(8)
Climate and elevation range	Wide climate range, elevation 1100m – 1230 m. (1)(10)
Local habitat and abundance	Found most commonly as soil stabilization vegetative cover on bare soil resulting from road cuts, excavations, and occurring wildy in open meadows, fields, prairies, pastures, and abandoned areas. (2)(4)(7)
Plant strategy type / successional stage	Self-sowing colonizer, can be early successional in open areas, stress-tolerator of exposed soil sites (4)(8)

Plant characteristics	Annual, biennial, and/or perennial forb/herb, dicot, generally short-lived, yellowy-orange ray flowers with dark spherical centers, grow to ~1 meter tall, several stems can grow from single crown and taproot. (1)(3)(4)(5)
PROPAGATION DETAILS	
Ecotype	N/A
Propagation Goal	Plants and seeds
Propagation Method	Seed only(8)
Product Type	Propagules (seeds)
Stock Type	N/A
Time to Grow	Seeding mid-September, ready for outplanting by Spring(6)
Target Specifications	<i>R. hirta</i> overwinters as a rosette before rapid spring growth
Propagule Collection Instructions	Harvest seed in mid-summer using a combine equipped with a slow speed fan. (7)
Propagule Processing/Propagule Characteristics	Cleaned seed yields range from 20-30 lb/acre, seeds remain viable up to five years in controlled storage at 55F and 45% humidity. (7)
Pre-Planting Propagule Treatments	No prolonged dormancy, and no pretreatment for germination. Cleaning with air and separation screens, recommended sizes are 1/16 or 1/18 round hole for top screen and 36 x26 wire mesh for bottom screen. (7)
Growing Area Preparation / Annual Practices for Perennial Crops	Start in greenhouse, individual planting tray cells with sterile growing media. (7)
Establishment Phase Details	Direct sow into individual planting tray cells, cover seeds with thin layer of media and lightly water. Greenhouse should be 65-76F daytime and 55F nighttime. (7)
Length of Establishment Phase	Approximately two weeks (6)(7)
Active Growth Phase	Thin to one vigorous seedling, do not overwater, grow in greenhouse until firm fibrous root plug is developed. (7)
Length of Active Growth Phase	2-3 weeks (6)(7)
Hardening Phase	Move plant trays to shade house and harden before transplanting outside. (7)
Length of Hardening Phase	1-2 weeks (7)
Harvesting, Storage and Shipping	Transplants will continue to grow slowly through Winter, then rapidly in Spring. After first season, can expect <i>R. hirta</i> to reseed itself (7)
Length of Storage	~5 months (from hardening to rapid Spring growth) (7)
Guidelines for Outplanting / Performance on Typical Sites	Sites must have well-drained soil, full or mostly sunny (<6 hours direct sunlight), Typically will not flower in the first Summer, elapsed time between planting and flowering ~18 months (7)

Other Comments	
INFORMATION SOURCES	
References	<ol style="list-style-type: none"> 1. “Rudbeckia Hirta L.” PLANTS Database, USDA NRCS, <plants.sc.egov.usda.gov/core/profile?symbol=RUHI2>. 2. “USDA NRCS Plant Fact Sheet BLACK_EYED SUSAN Rudbeckis Hirta L.” USDA NRCS, 5 Feb. 2002. <https://plants.sc.egov.usda.gov/factsheet/pdf/fs_ruhi2.pdf>. 3. Pojar, Jim, et al. Plants of the Pacific Northwest Coast: Washington, Oregon, British Columbia & Alaska. Lone Pine, 2016. 4. Rudbeckia Hirta.” New Moon Nursery, New Moon Nursery, LLC, 2020, <www.newmoonnursery.com/plant/Rudbeckia-hirta>. 5. Harkess, Richard. “Rudbeckia Hirta L.: A Versatile North American Wildflower.” HortScience, Mar. 1994. <https://pdfs.semanticscholar.org/e037/f9447f38e675251ab6f8e5d728a77a29a73d.pdf>. 6. Jeffers, Andrew. “Rudbeckia.” Home & Garden Information Center Clemson University, South Carolina, 1 Mar. 2017, <hgic.clemson.edu/factsheet/rudbeckia/>. 7. Brakie, M. “USDA National Resources Conservation Service Plant Guide BLACK_EYED SUSAN Rudbeckis Hirta L.” USDA NRCS, 2019. <https://plants.sc.egov.usda.gov/plantguide/pdf/pg_ruhi2.pdf>. 8. “Characteristics of Rudbeckia Hirta L.” USDA PLANTS, 2020, <plants.sc.egov.usda.gov/java/charProfile?symbol=RUHI2>. 9. “Rudbeckia Hirta.” Online Virtual Flora of Wisconsin - Rudbeckia Hirta, <wisflora.herbarium.wisc.edu/taxa/index.php?taxon=4907>. 10. “Plant Characteristics and Associations.” Calflora, <www.calflora.org/entry/plantchar.html?crn=10327>.
Other Sources Consulted	<p>Ravenscroft, Dean. “Rudbeckia Plants - Coneflowers and Black Eyed Susan Growing Guide.” Gardeners HQ, <www.gardenershq.com/Rudbeckia-Coneflower.php>.</p> <p>“Rudbeckia Hirta.” Wikipedia, Wikimedia Foundation, 16 Apr. 2020, <en.wikipedia.org/wiki/Rudbeckia_hirta>.</p> <p>Old Farmer's Almanac. “Black-Eyed Susans.” Old Farmer's Almanac, <www.almanac.com/plant/black-eyed-susans#>.</p>
Protocol Author	James Spallino
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or Updated	
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