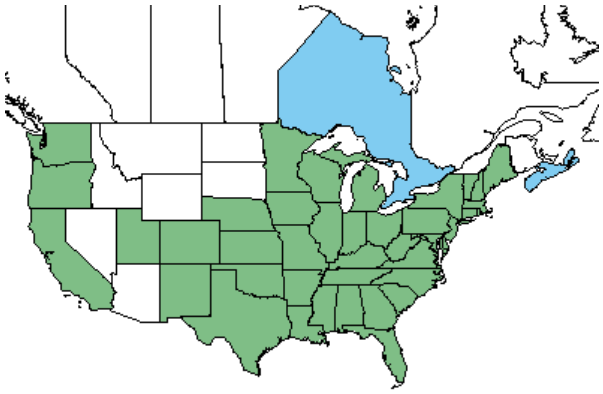
**Plant Propagation Protocol for *Robinia Hispida* L.**
ESRM 412 – Native Plant Production
Protocol URL: https://courses.washington.edu/esrm412/protocols/ROHI.pdf

North American Distribution[1]



Washington Distribution[1]


| TAXONOMY | |
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| Plant Family | |
| Scientific Name | Fabaceae |
| Common Name | Pea family |
| Species Scientific Name | |
| Scientific Name | *Robinia hispida* L. |
| Varieties | *Robinia hispida* var. *Fertilis* (Ashe) R.T. Clausen[2]<br>*Robinia hispida* var. *Hispida* L.[2]<br>*Robinia hispida* var. *Kelseyi* (J.F. Cowell ex Hutch.) Isely[2]<br>*Robinia hispida* var. *Nana* (Elliott) DC.[2]<br>*Robinia hispida* var. *Rosea* (Pursh)[2] |
| Sub-species | |
| Cultivar | |
| Common Synonym(s) | |
| Common Name(s) | bristly locust, rose acacia, rose locust[3], hairy locust[4] |
| Species Code (as per USDA Plants database) | ROHI |
| **GENERAL INFORMATION** | |
| Geographical range | *R. hispida* is native to almost all of the continental United States, excluding Idaho, Montana, North and South Dakota, Wyoming, Nevada, and Arizona.[1]<br><br>It is native to Kitsap and Mason counties in western Washington, and Whitman county in eastern Washington.[1]<br><br>See maps above. |

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| Ecological distribution | Dry, well-drained, moist, sunny, or shaded areas[4]<br><br>Open woods; mountain slopes; sand hills[5]<br><br>Thrives in habitats with thin upland woodlands, woodland edges, fence rows, thickets, banks of drainage canals, roadside embankments, overgrown waste areas, vacant lots[6] |
| Climate and elevation range | 0-1600 m[8] |
| Local habitat and abundance | |
| Plant strategy type / successional stage | Found in hardiness zones 5-8[3, 7]<br><br>Can tolerate deer, drought, erosion, dry soil, shallow-rocky soil[3]<br><br>Circumneutral soil, pH 6.8-7.2[5]<br><br>Tolerates dry sites, occasional drought, acid soils, alkaline soils, clay soil, salt spray, soil salt[7]<br><br>Intolerant of poor drainage[7]<br><br>Suffers from frequent disease and insect problems, needs protection from wind[5] |
| Plant characteristics | Perennial[5], deciduous shrub, height 2-10 ft, spread 5-15 ft[3]<br><br>Blooms in May, rosy pink to purplish-red blooms[3]<br><br>Purplish-pink pendulous flowers, blue-green foliage, bristle seed pods[7]<br><br>Gray, fairly smooth bark; open-branched, straggly, woody; has spines/prickles/thorns; twigs are brown, gray, or red in the winter[6]<br><br>Leaves are compound, alternate, deciduous, and densely hairy, divided into 7-19 leaflets, 1.5-2 inches long[5]; no teeth or lobes on leaf blade[6]<br><br>Flowers are in clusters, hang from leaf axil, 2-lipped, upper lip shorter than lower[5]<br><br>Flowers are five-petaled, pea-like, pink to rose with cream to yellow spot in center[9] |

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| | Fruit – flat, bristly pods[9] |
| **PROPAGATION DETAILS** | |
| **USDA RNCS – Quicksand Plant Materials Center, Propagation protocol for production of Propagules (seeds, cuttings, poles, etc.) *Robinia Hispida* seeds[4]** | |
| Ecotype | Great Smoky Mountains National Park – plants found on ridges of cliffs on fairly dry soils |
| Propagation Goal | Seeds |
| Propagation Method | Vegetative |
| Product Type | Propagules |
| Stock Type | |
| Time to Grow | 0 |
| Target Specifications | |
| Propagule Collection Instructions | Collected in the Great Smoky Mountains National Park |
| Propagule Processing/Propagule Characteristics | Ease of collection: Sites with bristly locust are limited in the Great Smoky Mountains National Park. Roots and rhizomes are very shallow in the ground. One-year-old material was dug or pulled between plants and wrapped in moist packaging material and transported in ice chests.<br><br>Type of material collected for propagation: Root cuttings (rhizomes), two inches in length. Very little or no seeds are produced on this species, making seed collection improbable. Root collections were made in January 1993. Depending on success of cuttings, collections are planned for April-May 1993. |
| Pre-Planting Propagule Treatments | None |
| Growing Area Preparation / Annual Practices for Perennial Crops | Propagation method: Rhizome cuttings |
| Establishment Phase Details | Method of growing: Success of the following root cutting (rhizomes) method is not known at this time. Rhizome and root material was cut into 2-inch lengths (diameter of material approximately pencil size), sprinkled with a fungicide (Captan/Vitavax) and planted horizontally, approximately 1-inch deep in flats in the greenhouse. Growing medium is 1:1:1 peat, perlite, vermiculite. If successful, rooted material will be planted to a raised bed in the field in the spring of 1993. |
| Length of Establishment Phase | |
| Active Growth Phase | |
| Length of Active Growth Phase | |
| Hardening Phase | |
| Length of Hardening Phase | |

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| Harvesting, Storage and Shipping | Storage requirements: Root material needs to stay damp and cool for transport and storage. |
| Length of Storage | Estimated propagule storage potential: Estimate of 1 to 5 days, depending on how it is packaged. |
| Guidelines for Outplanting / Performance on Typical Sites | |
| Other Comments | |
| **John Vandevender – Propagation protocol for production of Container (plug) *Robinia hispida* L. Plants[11]** | |
| Ecotype | Southern Appalachian |
| Propagation Goal | Plants |
| Propagation Method | Vegetative |
| Product Type | Container (plug) |
| Stock Type | 1-0 |
| Time to Grow | 12 months |
| Target Specifications | A second spring seedling ranging in height from 6” to 12” and having a compact, well developed root system. |
| Propagule Collection Instructions | Roots (rhizomes) are collected by digging and severing from the parent plant typically in late winter or early spring while the parent shrub is still dormant. Preferred root diameter is pencil sized or about ¼” diameter. Roots suitable for propagation are generally found at shallow soil depths which eases collection. |
| Propagule Processing/Propagule Characteristics | Harvested roots are packed is moist sphagnum or similar materials and transported to the greenhouse in ice chests. Roots are buried in greenhouse vermiculite beds maintained at a minimum of 65 degrees Fahrenheit and under natural lighting. Vermiculite beds are maintained at a consistent moisture level via automatic watering. |
| Pre-Planting Propagule Treatments | |
| Growing Area Preparation / Annual Practices for Perennial Crops | |
| Establishment Phase Details | Root suckers (stems) begin to emerge within 2-3 weeks after roots are placed in the vermiculite propagation beds. Once sufficient top growth has developed, the new plants along with a 2" minimum segment of root are removed from the propagation bed, the root segment is dipped in a rooting hormone solution and the new plant is transplanted into a nursery trade sized 1 quart pot filled with coarse processed bark and composted pine bark growing medium. Transplants are then placed on a misting table to encourage new root development. A typical misting cycle is 20 seconds of misting at 2 minute intervals. Plants remain on the |

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| | misting table until a moderate density, fibrous root system has developed. |
| Length of Establishment Phase | 3-4 months |
| Active Growth Phase | Once an adequate root system has developed, the potted plants may be placed in standard greenhouse or outdoor growing conditions. In either case, plants are maintained under natural lighting and may benefit from artificial or natural shade. In either case, shade should not exceed 50%. Optimal soil moisture levels are typically maintained via automatic watering systems during daylight hours. |
| Length of Active Growth Phase | 4-6 months |
| Hardening Phase | Plants grown outdoors typically do not require acclimation. Plants grown in greenhouse environments may be acclimated by placing the plants outdoors in a protected location for a minimum of two weeks. |
| Length of Hardening Phase | 2 weeks |
| Harvesting, Storage and Shipping | |
| Length of Storage | |
| Guidelines for Outplanting / Performance on Typical Sites | |
| Other Comments | |
| **INFORMATION SOURCES** | |
| References | (See below) |
| Other Sources Consulted | (See below) |
| Protocol Author | Kyra Woytek |
| Date Protocol Created or Uploaded | 4/30/2019 |

**References:**


[1]"Plants Profile for Robinia Hispida (Bristly Locust)." *USDA NRCS Plants Database*, plants.sc.egov.usda.gov/core/profile?symbol=ROHI.

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[3]"Robinia Hispida - Plant Finder." *Missouri Botanical Garden*, www.missouribotanicalgarden.org/PlantFinder/PlantFinderDetails.aspx?taxonid=280475.

[4]"Fabaceae (Robinia)." *Reforestation, Nurseries and Genetics Resources - Native Plant Network*, US Department of Agriculture, Forest Service, National Center for Reforestation, Nurseries, and Genetic Resources., 2001, npn.rngr.net/npn/propagation/protocols/fabaceae-robinia-1206/?searchterm=robinia%2Bhispida.

[5]"Plant Database - Robinia Hispida." *Lady Bird Johnson Wildflower Center - The University of Texas at Austin*, 24 Aug. 2007, www.wildflower.org/plants/result.php?id_plant=rohi.

[6]Mittal, Sneha, and Sarah Lee. “Bristly Locust Rose-Acacia.” *Yale Nature Walk*, 7 Feb. 2018, naturewalk.yale.edu/trees/fabaceae/robinia-hispida/bristly-locust-rose-acacia-86.

[7]“Bristly Locust.” *The Morton Arboretum*, www.mortonarb.org/trees-plants/tree-plant-descriptions/bristly-locust.

[8]Contu, S. “Robinia Hispida.” *The IUCN Red List of Threatened Species*, 2012, www.iucnredlist.org/species/19892296/20138109.

[9]“Robinia Hispida.” *UMass Amherst Landscape, Nursery & Urban Forestry Program*, extension.umass.edu/landscape/weeds/robinia-hispida.

[10]“Robinia Hispida.” *The Royal Horticultural Society*, www.rhs.org.uk/Plants/91229/Robinia-hispida/Details.

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**Other Sources Consulted:**

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