

**Plant Propagation Protocol for *Juncus tenuis* Willd.**

ESRM 412 – Native Plant Production

Protocol URL: <https://courses.washington.edu/esrm412/protocols/JUTE>

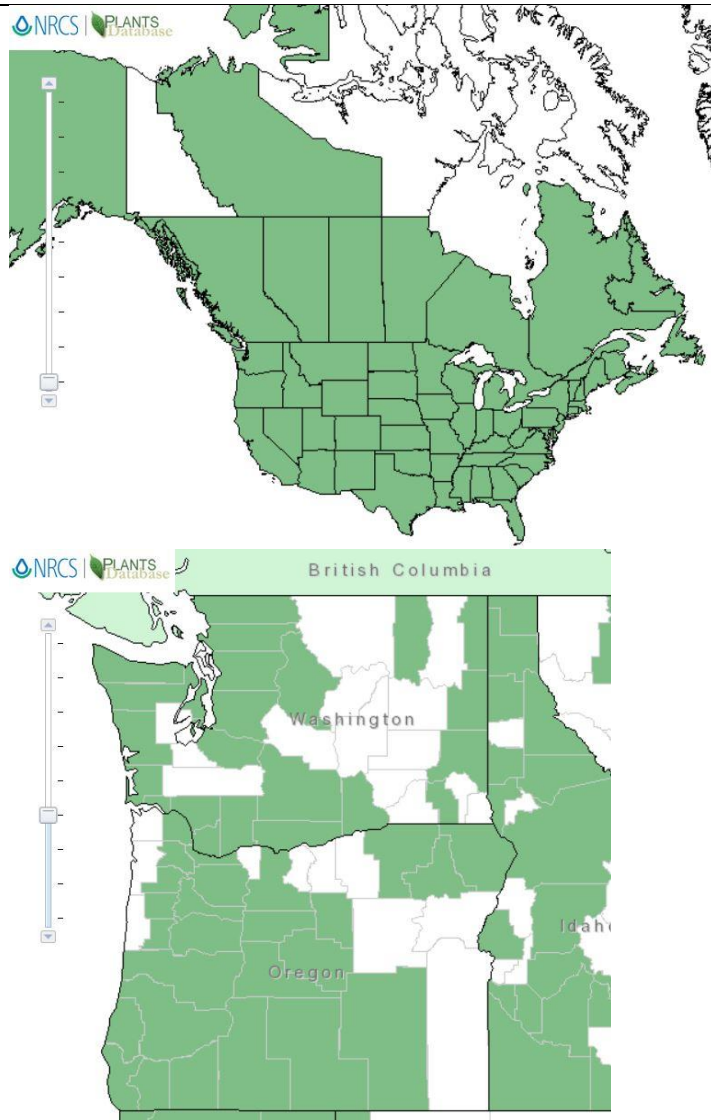


(© Abe Lloyd)

TAXONOMY	
Plant Family	
Scientific Name	Juncaceae <sup>2</sup>
Common Name	Rush family <sup>2</sup>
Species Scientific Name	
Scientific Name	<i>Juncus tenuis</i> Willd. <sup>1</sup>
Varieties	<i>Juncus tenuis</i> Willd. var. <i>multicornis</i> E. May, <i>Juncus tenuis</i> Willd. var. <i>williamsii</i> Fernald <sup>1</sup>
Sub-species	No sub-species recognized <sup>1</sup>
Cultivar	No cultivars recognized <sup>1</sup>
Common Synonym(s)	<i>Juncus macer</i> Gray <sup>1</sup>
Common Name(s)	Poverty rush, Field rush, Path rush, Slender rush, Slender yard rush, Wiregrass <sup>1,2</sup>
Species Code (as per USDA Plants database)	JUTE <sup>1</sup>

## GENERAL INFORMATION

Geographical range



(© USDA PLANTS Database)

Found throughout United States and parts of Canada and northern Europe<sup>2</sup>

Ecological distribution

Wetlands; habitats that are saturated in the winter but dry out in the summer; disturbed areas such as paths (reason for common name) and roadsides; compacted soils<sup>1,4</sup>

Climate and elevation range

Wet environments, either by precipitation or proximity to body of water; 11.9"-102.9" annual precipitation; below 1500 m elevation<sup>2,5</sup>

Local habitat and abundance

Associated with *Juncus vaseyi*, *Juncus subcaudatus*, and *Sisyrinchium angustifolium*<sup>7,8,9</sup>

Plant strategy type / successional stage

Early successional stages; does not do well with high competition; tolerant of disturbed sites, saturated/compacted soil, being trampled/mechanical injury, and shade; potential to become weedy or

	invasive in some regions or habitats and can displace desirable vegetation if not managed <sup>1,2,3,10</sup>
Plant characteristics	Perennial graminoid; tufted rush; 15-60 cm tall; leaves come from the base and are not as tall as stems; stems partly covered with sheaths; grows in clumps from short rhizomes; pale brown oblong seeds 0.3-0.4 mm long <sup>1,2,3,4</sup>
<b>PROPAGATION DETAILS</b>	
Ecotype	Corvallis, OR <sup>1</sup>  Great Smoky Mountains National Park, Shenandoah National Park <sup>11</sup>
Propagation Goal	Plants for seed increase and restoration sites <sup>1,11</sup>
Propagation Method	Seed <sup>1, 11</sup>
Product Type	Container (plug) <sup>1,11</sup>
Stock Type	Plug trays or Ropak multipots <sup>11</sup>
Time to Grow	3 months (13 weeks) <sup>1,11</sup>
Target Specifications	A season's growth <sup>1</sup>  2-3"; full, firm root system <sup>11</sup>
Propagule Collection Instructions	Harvest when seeds are ripe but still enclosed in capsules; best when seeds turn yellow to a rusty color and get firmer; typically early July <sup>1</sup>  Collected in Great Smoky Mountains National Park and in Shenandoah National Park; sickle bar used for harvesting in early August-September <sup>11</sup>
Propagule Processing/Propagule Characteristics	20,000,000 seeds/lb; high purity can be reached with good cleaning practices <sup>1</sup>  4,000-5,000 plugs per gram of seed <sup>11</sup>
Pre-Planting Propagule Treatments	Non-dormant; once dry thresh plant material to get seeds into a container; air screen can be used to remove any remaining chaff; avoid mechanical combines and threshers <sup>1</sup>  Initial clean with debearder, then large clipper (1 and 9 screens) with no air and the belt off <sup>11</sup>
Growing Area Preparation / Annual Practices for Perennial Crops	Grown in greenhouse over winter <sup>1</sup>  Greenhouse with day and night temperature differences; no additional light; Sunshine #1 potting mix plus added nutrients; ¾ filled with potting mix and the rest germination mix <sup>11</sup>
Establishment Phase Details	Sow in January for spring outplanting and in spring to mid-July for fall outplanting; place in mist until seed has germinated; light fertilization may be necessary <sup>11</sup>
Length of Establishment Phase	8-10 days <sup>11</sup>

Active Growth Phase	Transplanted into fields with weed fabric coverings; 1x1' spacing; weeds mostly taken care of by weed fabric but if not sufficient can weed by hand; not tolerant of most herbicides <sup>1</sup>  Slow to grow height wise <sup>11</sup>
Length of Active Growth Phase	2 months <sup>11</sup>
Hardening Phase	Placed outside with appropriate weather <sup>11</sup>
Length of Hardening Phase	2 weeks before outplanting date <sup>11</sup>
Harvesting, Storage and Shipping	Harvest when seeds are ripe but still enclosed in capsules; best when seeds turn yellow to a rusty color and get firmer; typically early July <sup>1</sup>
Length of Storage	Finished plugs are not usually stored over the winter, but can be in the time leading up to <sup>11</sup>
Guidelines for Outplanting / Performance on Typical Sites	Best outplanting success in spring <sup>6</sup>
Other Comments	Does not produce seed in first year after transplanting, but produces for over 5 years afterwards <sup>1</sup>

### INFORMATION SOURCES

References	<sup>1</sup> Hoffman RC. 2012. Plant guide for poverty rush ( <i>Juncus tenuis</i> ). USDA-Natural Resources Conservation Service, Plant Materials Center, Corvallis, OR. <sup>2</sup> Poverty Rush. California Native Plant Society, Calscape. <a href="https://calscape.org/Juncus-tenuis-(Poverty-Rush)?srchcr=sc5882e16ad9a15">https://calscape.org/Juncus-tenuis-(Poverty-Rush)?srchcr=sc5882e16ad9a15</a> <sup>3</sup> <i>Juncus tenuis</i> . Invasive Species Compendium. Center for Agriculture and Bioscience International. <a href="https://www.cabi.org/isc/datasheet/115047">https://www.cabi.org/isc/datasheet/115047</a> <sup>4</sup> <i>Juncus tenuis</i> . Pacific Island Ecosystems at Risk (PIER). <a href="http://www.hear.org/pier/species/juncus_tenuis.htm">http://www.hear.org/pier/species/juncus_tenuis.htm</a> <sup>5</sup> Zika PF. 2015. <i>Juncus tenuis</i> . Jepson EFlora Project. University of California, Berkeley. <a href="https://ucjeps.berkeley.edu/eflora/eflora_display.php?tid=29725">https://ucjeps.berkeley.edu/eflora/eflora_display.php?tid=29725</a> <sup>6</sup> <i>Juncus tenuis</i> . Plants for a Future. <a href="https://pfaf.org/user/plant.aspx?LatinName=Juncus+effusus">https://pfaf.org/user/plant.aspx?LatinName=Juncus+effusus</a> <sup>7</sup> Conservation Assessment for <i>Juncus vaseyi</i> Engelmann (Vasey's rush). 2004. USDA Forest Service, Eastern Region <sup>8</sup> New York Natural Heritage Program. 2020. Online Conservation Guide for <i>Juncus subcaudatus</i> . <a href="https://guides.nynhp.org/spreading-rush/">https://guides.nynhp.org/spreading-rush/</a> <sup>9</sup> Pointed Blue-eyed-grass. Wisconsin Department of Natural Resources. <a href="https://dnr.wi.gov">https://dnr.wi.gov</a> <sup>10</sup> Falinska K. 1991. Plant demography in vegetation succession. Springer Science Business Media.
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	<sup>11</sup> Davis KM, Kujawski J. 2001. Propagation protocol for production of Container (plug) <i>Juncus tenuis</i> . USDA NRCS. <a href="https://npn.rngr.net/">https://npn.rngr.net/</a>
Other Sources Consulted	<sup>12</sup> <i>Juncus tenuis</i> . Flora of North America. Efloras.org <sup>13</sup> <i>Juncus tenuis</i> . Burke Herbarium Image Collection. <a href="http://biology.burke.washington.edu">http://biology.burke.washington.edu</a>
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