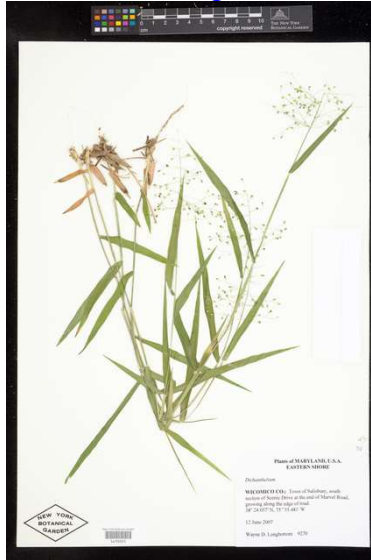
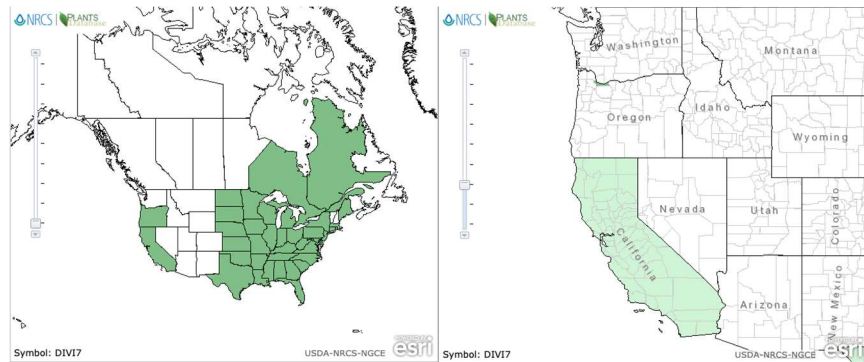


**Plant Propagation Protocol for *Dicanthelium villosissimum* (Nash) Freckmann**  
 ESRM 412 – Native Plant Production

Protocol URL: <https://courses.washington.edu/esrm412/protocols/DIVI7>



Source: New York Botanical Garden

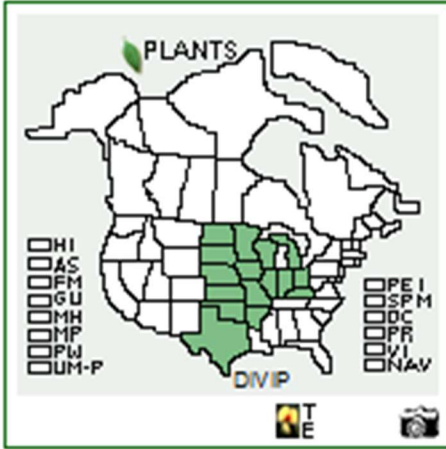
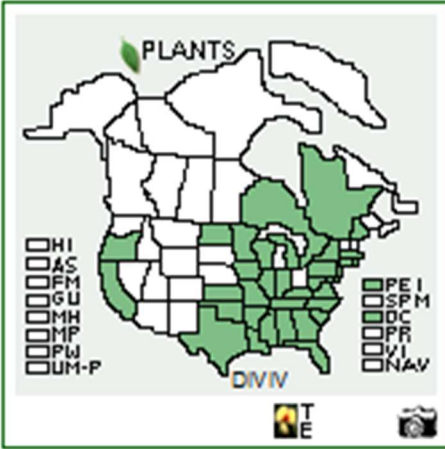


Source: USDA PLANTS Database

<b>TAXONOMY</b>	
Plant Family	
Scientific Name	Poaceae /Gramineae
Common Name	Grass family
Species Scientific Name	
Scientific Name	<i>Dicanthelium villosissimum</i> (Nash) Freckmann
Varieties	
Sub-species	<i>Dicanthelium billosissimum</i> var. <i>praecocius</i> <i>Dicanthelium villosissimum</i> var. <i>villosissimum</i>
Cultivar	
Common Synonym(s)	<i>Dicanthelium praecocius</i> (Hitchc. & Chase) Mohlenbr.; <i>Panicum lanuginosum</i> Ellior var. <i>praecocius</i> (Hitchc. & Chase) McNeill & Dore;

	<i>Panicum praecocius</i> Hitchc. & Chase; <i>Dichanthelium acuminatum</i> (Sw.) Gould & C.A. Clark var. <i>villosum</i> (A. Gray) Gould & C.A. Clark; <i>Dicanthelium lanuginosum</i> (Elliott) Gould var. <i>villosissimum</i> (Nash) Gould; <i>Dicanthelium ovale</i> (Elliott) Gould & C.A. Clark ssp. <i>Pseudopubescens</i> (Nash) Freckmann & Lelong; <i>Dechanthelium villosissimum</i> (Nash) Mohlenbr.; <i>Panicum acuminatum</i> Sw. var. <i>villosissimum</i> (Nash) C.F. Reed; <i>Panicum acuminatum</i> Sw. var. <i>villosum</i> (A. Gray) Beetle; <i>Panicum nitidum</i> Lam. var. <i>villosum</i> A. Gray; <i>Panicum ovale</i> Elliot var. <i>pseudopubescens</i> (Nash) Lelong; <i>Panicum ovale</i> Elliot var. <i>villosum</i> (A. Gray) Lelong; <i>Panicum pseudopubescens</i> Nash; <i>Panicum villosissimum</i> Nash; <i>Panicum villosissimum</i> Nash var. <i>pseudopubescens</i> (Nash) Fernald (Kartesz, 2019; USDA NCRS National Plant Data Team, 2019)
Common Name(s)	whitehair rosette grass; white-hair witchgrass; white-haired panic grass; commons's panic-grass; villous panic-grass
Species Code (as per USDA Plants database)	DIVI7

**GENERAL INFORMATION**

Geographical range	<p>Found on the east coast of Canada and the United States. In the Pacific Northwest it is found in California and a northern county of Oregon. See above maps for visual distribution. Only the subspecies of <i>D. villosissimum</i> var. <i>villosissimum</i> occurs in the Pacific Northwest.</p> <div style="display: flex; justify-content: space-around;"> <div style="text-align: center;">  <p><i>Dichanthelium villosissimum</i> var. <i>praecocius</i> whitehair rosette grass</p> </div> <div style="text-align: center;">  <p><i>Dichanthelium villosissimum</i> var. <i>villosissimum</i> whitehair rosette grass</p> </div> </div> <p>Source: USDA PLANTS Database</p>
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Ecological distribution	Sandy, rocky, and gravelly soils. Upland woods, savannas, and prairies. Open areas (White-haired panic grass <i>Dichanthelium villosissimum</i> , <i>n.d.</i> ).
Climate and elevation range	<i>D. villosissimum</i> lives in dry climates.
Local habitat and abundance	<i>Dichanthelium</i> is associated with many caterpillars. Some birds and small mammals also eat the seeds of this grass. The young foliage is good for mammalian herbivores (White-haired panic grass <i>Dichanthelium villosissimum</i> , <i>n.d.</i> ).  In Massachusetts it has a special concern status. In Ohio one of the subspecies is extinct while the other subspecies is endangered (USDA NCRS National Plant Data Team, 2019).
Plant strategy type / successional stage	Primary succession. Disturbance of woody vegetation helps maintain the populations of <i>D. villosissimum</i> . Shade intolerant species (White-haired panic grass <i>Dichanthelium villosissimum</i> , <i>n.d.</i> ).
Plant characteristics	Perennial grass about 12-20” long. There are tufts of leafy culm. The culm is terete, slightly hairy, and a light to medium green color. There are alternate leaves on the lower 75% of the culm. The central culm separates into an exerted panicle of spikelets. A spikelet is made up of two glumes: a floret and a lemma. Once the <i>D. villosissimum</i> is pollinated by the grass, the grass will develop low lateral leafy branches. The lateral leaves resemble a rosette (White-haired panic grass <i>Dichanthelium villosissimum</i> , <i>n.d.</i> ).
<b>PROPAGATION DETAILS</b>	
Ecotype	Stones River
Propagation Goal	Plants
Propagation Method	Seed
Product Type	Container (plug)
Stock Type	1+0container plug
Time to Grow	6 months
Target Specifications	A plant with 6 inches of top growth. A fibrous dense root system is present. The plant is sturdy and will survive a mechanical transplant (Vendevender, 2010).
Propagule Collection Instructions	Hand harvest the seeds from the primary flowering heads. The grass will flower in spring These seeds were collected from populations in the Stones River National Battlefield (Vendevender, 2010).
Propagule Processing/Propagule Characteristics	None

Pre-Planting Propagule Treatments	Plant the de-tufted seeds into round flat liners with 38 cells. The medium placed in the flat liners is a coarse processed bark with composted pine bark. Sow 3-5 seeds per cell. Combat diseases by covering lightly with a 1/16"-1/8" starter sized granite poultry grit. Slightly dampen the growing medium by hand watering after the flats are sown (Vendevender, 2010).
Growing Area Preparation / Annual Practices for Perennial Crops	The stratified seeds are maintained in a greenhouse with a minimum temperature of 70 degrees Fahrenheit. Maintain the soil moisture with an overhead watering system that cycles every 20 seconds (Vendevender, 2010)..
Establishment Phase Details	After placing the seeds in the greenhouse, germination will occur in 7-10 days (Vendevender, 2010).
Length of Establishment Phase	7-10 days
Active Growth Phase	Maintain the seedlings in a greenhouse environment. This promotes the target characteristics for mechanical transplanting. Reduce the watering to once per day. Fertigate bi-weekly until the hardening phase occurs (Vendevender, 2010).
Length of Active Growth Phase	2-4 months
Hardening Phase	Place the seeds outside in a protected are for 1-2 weeks to harden the plants (Vendevender, 2010).
Length of Hardening Phase	1-2 weeks
Harvesting, Storage and Shipping	None
Length of Storage	None
Guidelines for Outplanting / Performance on Typical Sites	Mechanically transplant plugs in to conventionally tilled seedbed. Rows should be spaced 40 inches apart. Space the plugs 12 inches apart. Irrigate the soil at least 1 inch after transplanting. This is to enhance root-soil contact and promote plant growth (Vendevender, 2010).
Other Comments	<i>Dicanthelium</i> have two flowering periods, they have a primary flowering head and a secondary flowering head. The primary flowering head are produced late spring to early summer. The primary flowering heads are terminal to the culms. The secondary flowering heads start producing at the beginning of mid0summer and flower into early autumn. The secondary flowering heads sprout form the leaf axils. The primary flowering heads germinant more readily. The secondary flowering heads are self-pollinated and produce a larger seedset. In the case of propagation, the primary flowering heads are more desirable (Vendevender, 2010).
<b>INFORMATION SOURCES</b>	
References	See below
Other Sources Consulted	See below
Protocol Author	Rachel May

Date Protocol Created or Updated	05/28/19
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**References:**

- Kartesz, J. & USDA NCRS National Plant Data Team. (2019). *Dichanthelium villosissimum* (Nash) Freckmann var. *praecocius* (Hitc. & Chase) Freckmann whitehair rosette grass. Retrieved May 29, 2019 from USDA website  
<https://plants.sc.egov.usda.gov/core/profile?symbol=DIVIP>
- USDA NCRS National Plant Data Team. (2019). *Dicanthelium villosissimum* (Nash) Freckmann var. *villosissimum* whitehair rosette grass. Retrieved May 29, 2019 from USDA website  
<https://plants.sc.egov.usda.gov/core/profile?symbol=DIVIV>
- USDA NCRS National Plant Data Team. (2019). *Dicanthelium villosissimum* (Nash) Freckmann whitehair rosette grass. Retrieved May 29, 2019 from USDA website  
<https://plants.usda.gov/core/profile?symbol=DIVI7>
- Vendevender, J. (2010). Propagation protocol for production of container (plug) *Dichanthelium villosissimum* (Nash) Freckmann plants 1+0container plug. Retrieved May 29, 2019 from NCRS USDA website  
[https://www.ncrs.usda.gov/Internet/FSE\\_PLANTMATERIALS/publications/wvpmcmt9838.pdf](https://www.ncrs.usda.gov/Internet/FSE_PLANTMATERIALS/publications/wvpmcmt9838.pdf)
- White-haired panic grass *Dichanthelium villosissimum* (n.d.) Retrived May 29, 2019 from Illinois Wildflowers website  
[https://www.illinoiswildflowers.info/grasses/plants/whitehair\\_panic.html](https://www.illinoiswildflowers.info/grasses/plants/whitehair_panic.html)
- Other Sources Consulted:**
- Dichanthelium acuminatum*. (2012). Retrieved May 29, 2019 from Evergreen State College website  
[https://wikis.evergreen.edu/pugetprairieplants/index.php/Dichanthelium\\_acuminatum](https://wikis.evergreen.edu/pugetprairieplants/index.php/Dichanthelium_acuminatum)
- Dicanthelium villosissimum* (Nash) Freckmann. (2019). Retrieved May 29, 2019 from Integrated Taxonomic Information System on-line database  
[https://www.itis.gov/servlet/SingleRpt/SingleRpt?search\\_topic=TSN&search\\_value=502040#null](https://www.itis.gov/servlet/SingleRpt/SingleRpt?search_topic=TSN&search_value=502040#null)
- Dicanthelium villosissimum* (Nash) Freckmann. (2011). Retrieved May 29, 2019 from University & Jepson Herbaria website [http://ucjeps.berkeley.edu/cgi-bin/get\\_cpn.pl?22836&expand=1](http://ucjeps.berkeley.edu/cgi-bin/get_cpn.pl?22836&expand=1)
- Walsh, R. (1995). *Dicanthelium acuminatum*. Retrieved May 29, 2019 from Fire Effects Information System website  
<https://www.fs.fed.us/database/feis/plants/graminoid/dicacu/all.html>