

## Plant Propagation Protocol for *Aristida purpurea*

ESRM 412 – Native Plant Production

Spring 2017



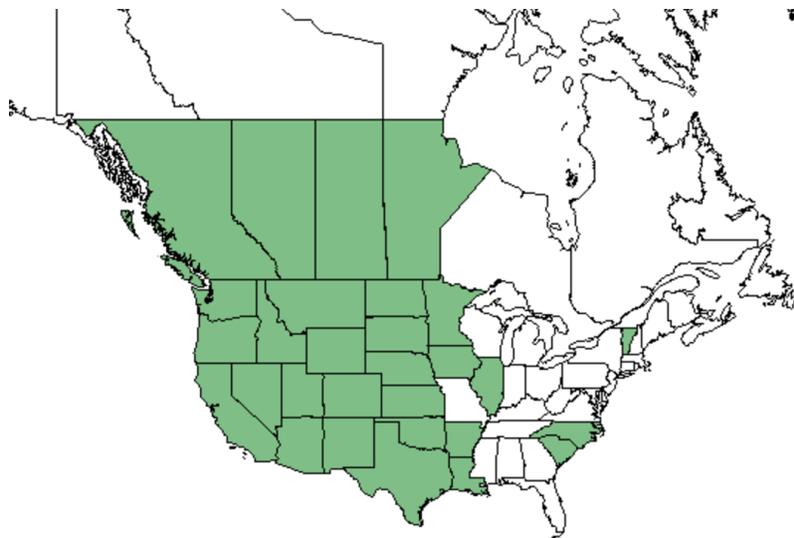
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<b>TAXONOMY</b>	
<b>Plant Family</b>	
Scientific Name	Poaceae
Common Name	Grasses
<b>Species Scientific Name</b>	
Scientific Name	<i>Aristida purpurea</i> Nutt.
Varieties	<i>purpurea</i> , <i>longiseta</i> (Steud.) Vasey, <i>fendleriana</i> (Steud.) Vasey
Sub-species	
Cultivar	
Common Synonym(s)	ARPUF <i>Aristida purpurea</i> Nutt. var. <i>fendleriana</i> (Steud.) Vasey ARPUL <i>Aristida purpurea</i> Nutt. var. <i>longiseta</i> (Steud.) Vasey
Common Name(s)	wiregrass, red threeawn, dogtown grass, prairie threeawn, purple threeawn
Species Code (as per USDA Plants database)	ARPU9
<b>GENERAL INFORMATION</b>	
Geographical range	Purple threeawn is found spread out in northwestern part of the US as far west as the coast, but they have been found spreading

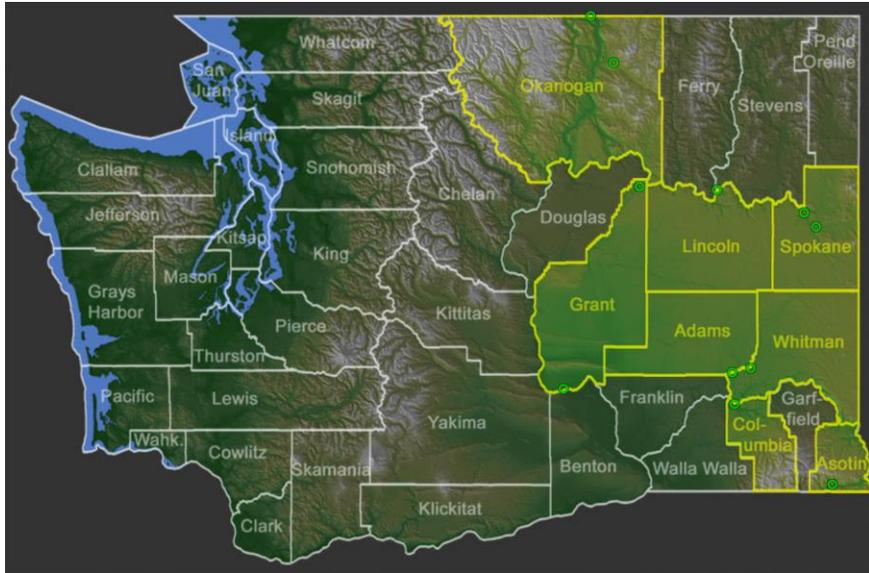
	east all the way to Illinois
Ecological distribution	Found inhabiting dry coarse or sandy soils in either desert valleys or along foothills.
Climate and elevation range	They tend to grow as low as the coastal elevations all the way up to 7000 feet. They ideally like dry soils. Although they have adapted to be drought tolerant, they can also tolerate precipitation over 6 inches. However, growth isn't optimal when high levels of precipitation are present. They can also survive in temperatures as low as -20 degree F. (Calscape)
Local habitat and abundance	They are found growing in plant communities that including: creosote bush, blackbrush, shadscale, greasewood, pinyon-juniper and ponderosa pine. Often considered a good understory grass layer. They tend to also invade roadsides and cover up animal burrows as they spread. (USDA)
Plant strategy type / successional stage	They're often found growing alongside other grasses and shrubs. They're not necessarily competitive, but they can become dominant along roadsides. They also like to grow in disturbed soils before others. (USDA)
Plant characteristics	Perennial bunchgrass. Grow up to 3 feet in height. On average have 10 in thin blades, which are involute. Their inflorescence is a narrow panicle that extends up to 9 inches in length. The floret has a reddish to purple coloring with small columns coming off of them, up to 4 inches in length. (USDA)
<b>PROPAGATION DETAILS</b>	
Propagation Goal	Grass
Propagation Method	Seed
Product Type	Container
Stock Type	SC-10 Super Cells (Decker)
Time to Grow	Best time to sow seeds is during July. It takes about 4 months to grow. (Decker)
Target Specifications	Seeds grow roots fast. After 30 days, the roots are approximately 19 inches. (EOL)
Propagule Collection Instructions	Seeds are extremely accessible, can be collected straight from the flowering of the grass.
Propagule Processing/Propagule Characteristics	Seeds can be collected once the grass has established flowers (dried). Seeds can be propagated alone or with other grass species. The full stand seeding rate of 4 lbs/ac Pure Live Seed (PLS) provides an average of 25 seeds/sq ft (USDA) Seeds are hand collected into woven bags from small lots, 0.67 pounds. (Barner)
Pre-Planting Propagule Treatments	Method of preparing seeds:  "Seed lot is first processed using a Westrup Model LA-H laboratory brush machine, with a #40 mantel, at medium speed. Seeds are then air-screened using an office Clipper, with a top

	screen: 1/16 x 1/2 cross slot and a bottom screen: blank, medium speed, medium air. Number of Seeds per Pound: 216,000, Purity: 95%, X-Ray 100 Seeds: 95% Filled, TZ: 96% (Oregon State University Seed Laboratory Analysis)” (Barner)
Growing Area Preparation / Annual Practices for Perennial Crops	Seeds are drill seeded at depths of ½ to 1 inch into the soil. Ideal germination temperature is around 69 degrees F. Seeds should be placed in dry soil. There’s no light requirement. Also, minimal water is needed. (USDA)
Establishment Phase Details	Establishment occurs during the warm temperatures of the summer time and with the help of fall time rain. (EOL)
Length of Establishment Phase	June – October
Active Growth Phase	Quick growing grass, once the roots have been established throughout the summer and fall, they continue to grow the following spring.
Length of Active Growth Phase	From summer when initially germination occurs to the following spring.
Hardening Phase	Hardening occurs during the first fall to winter transition that the plant goes through. Roots are established by then. (USDA)
Length of Hardening Phase	Fall to winter, October - December
Harvesting, Storage and Shipping	Seeds can be easily harvested straight from the grass itself. Seeds also spread through grazing of livestock. Storage is done through cold storage at about 33-38 degrees Fahrenheit. (Barner)
Length of Storage	
Guidelines for Outplanting / Performance on Typical Sites	
Other Comments	
<b>INFORMATION SOURCES</b>	
References	<ul style="list-style-type: none"> <li>- Calscape. “Purple Three Awn, <i>Aristida Purpurea</i>.” <i>Calscape</i>. Accessed May 24, 2017. <a href="http://calscape.org/Aristida-purpurea-(Purple-Three-Awn)">http://calscape.org/Aristida-purpurea-(Purple-Three-Awn)</a>.</li> <li>- Barner, Jim. 2009. Propagation protocol for production of Propagules (seeds, cuttings, poles, etc.) <i>Aristida purpurea</i> Nutt. seeds USDA FS - R6 Bend Seed Extractory Bend, Oregon. In: Native Plant Network. URL: <a href="http://NativePlantNetwork.org">http://NativePlantNetwork.org</a> (accessed 2017/06/05). US Department of Agriculture, Forest Service, National Center for Reforestation, Nurseries, and Genetic Resources.</li> <li>- Decker, Cheryl. 2003. Propagation protocol for production of Container (plug) <i>Aristida purpurea</i> Nutt. plants SC-10 Super Cells; USDI NPS - Zion National Park Springdale, Utah. In: Native Plant Network. URL: <a href="http://NativePlantNetwork.org">http://NativePlantNetwork.org</a> (accessed 2017/06/05). US Department of Agriculture, Forest Service, National Center for Reforestation, Nurseries, and Genetic Resources.</li> </ul>

	<ul style="list-style-type: none"> <li>- EOL. <i>Plant Name Details for Aristida Purpurea</i>’. IPNI, n.d. <a href="http://www.ipni.org:80/ipni/idPlantNameSearch.do;jsessionid=E69819B58A90E3C21A3C544CC526703F?id=389707-1">http://www.ipni.org:80/ipni/idPlantNameSearch.do;jsessionid=E69819B58A90E3C21A3C544CC526703F?id=389707-1</a>.</li> <li>- TWC Staff. “Aristida Purpurea (Purple Threeawn)   NPIN.” <i>Lady Bird Johnson Wildflower Center</i>. Accessed May 24, 2017. <a href="http://www.wildflower.org/plants/result.php?id_plant=arpu9">http://www.wildflower.org/plants/result.php?id_plant=arpu9</a>.</li> <li>- USDA. “Purple Threeawn.” <i>Natural Resources Conservation Service</i>. Accessed May 24, 2017. <a href="https://plants.usda.gov/plantguide/pdf/pg_arpu9.pdf">https://plants.usda.gov/plantguide/pdf/pg_arpu9.pdf</a>.</li> </ul>
Other Sources Consulted	<ul style="list-style-type: none"> <li>- “CNPLX: Aristida Purpurea - Nursery and Seed Sources.” <i>California Native Plant Link Exchange</i>. Accessed June 5, 2017. <a href="http://www.cnplx.info/nplx/species?taxon=Aristida+purpurea">http://www.cnplx.info/nplx/species?taxon=Aristida+purpurea</a>.</li> <li>- Utah State University. “Red Threeawn - Range Plants of Utah - Extension.usu.edu.” <i>Extensions</i>. Accessed May 24, 2017. <a href="http://extension.usu.edu/rangeplants/htm/red-threeawn">http://extension.usu.edu/rangeplants/htm/red-threeawn</a>.</li> </ul>
Protocol Author	Ahmed Rizvi
Date Protocol Created or Updated	06/04/2017



Source: USDA PLANTS Database



Source:  
<http://biology.burke.washington.edu/herbarium/imagecollection.php?SciName=Aristida%20purpurea>