

Family: *Poaceae*

Taxon: *Sporobolus pyramidatus*

Synonym: *Agrostis pyramidata* Lam. (basionym)
Sporobolus argutus (Nees) Kunth
Vilfa arguta Nees

Common Name: whorled dropseed

Questionnaire :	current 20090513	Assessor:	Patti Clifford	Designation:	H(HPWRA)
Status:	Assessor Approved	Data Entry Person:	Patti Clifford	WRA Score	14
101	Is the species highly domesticated?			y=-3, n=0	n
102	Has the species become naturalized where grown?			y=1, n=-1	
103	Does the species have weedy races?			y=1, n=-1	
201	Species suited to tropical or subtropical climate(s) - If island is primarily wet habitat, then substitute "wet tropical" for "tropical or subtropical"			(0-low; 1-intermediate; 2-high) (See Appendix 2)	High
202	Quality of climate match data			(0-low; 1-intermediate; 2-high) (See Appendix 2)	High
203	Broad climate suitability (environmental versatility)			y=1, n=0	
204	Native or naturalized in regions with tropical or subtropical climates			y=1, n=0	y
205	Does the species have a history of repeated introductions outside its natural range?			y=-2, ?=-1, n=0	n
301	Naturalized beyond native range			y = 1*multiplier (see Appendix 2), n= question 205	y
302	Garden/amenity/disturbance weed			n=0, y = 1*multiplier (see Appendix 2)	n
303	Agricultural/forestry/horticultural weed			n=0, y = 2*multiplier (see Appendix 2)	n
304	Environmental weed			n=0, y = 2*multiplier (see Appendix 2)	n
305	Congeneric weed			n=0, y = 1*multiplier (see Appendix 2)	y
401	Produces spines, thorns or burrs			y=1, n=0	n
402	Allelopathic			y=1, n=0	
403	Parasitic			y=1, n=0	n
404	Unpalatable to grazing animals			y=1, n=-1	n
405	Toxic to animals			y=1, n=0	n
406	Host for recognized pests and pathogens			y=1, n=0	
407	Causes allergies or is otherwise toxic to humans			y=1, n=0	n
408	Creates a fire hazard in natural ecosystems			y=1, n=0	
409	Is a shade tolerant plant at some stage of its life cycle			y=1, n=0	
410	Tolerates a wide range of soil conditions (or limestone conditions if not a volcanic island)			y=1, n=0	y

411	Climbing or smothering growth habit	y=1, n=0	n
412	Forms dense thickets	y=1, n=0	n
501	Aquatic	y=5, n=0	n
502	Grass	y=1, n=0	y
503	Nitrogen fixing woody plant	y=1, n=0	n
504	Geophyte (herbaceous with underground storage organs -- bulbs, corms, or tubers)	y=1, n=0	n
601	Evidence of substantial reproductive failure in native habitat	y=1, n=0	n
602	Produces viable seed	y=1, n=-1	y
603	Hybridizes naturally	y=1, n=-1	
604	Self-compatible or apomictic	y=1, n=-1	
605	Requires specialist pollinators	y=-1, n=0	n
606	Reproduction by vegetative fragmentation	y=1, n=-1	
607	Minimum generative time (years)	1 year = 1, 2 or 3 years = 0, 4+ years = -1	1
701	Propagules likely to be dispersed unintentionally (plants growing in heavily trafficked areas)	y=1, n=-1	y
702	Propagules dispersed intentionally by people	y=1, n=-1	
703	Propagules likely to disperse as a produce contaminant	y=1, n=-1	y
704	Propagules adapted to wind dispersal	y=1, n=-1	n
705	Propagules water dispersed	y=1, n=-1	y
706	Propagules bird dispersed	y=1, n=-1	
707	Propagules dispersed by other animals (externally)	y=1, n=-1	y
708	Propagules survive passage through the gut	y=1, n=-1	y
801	Prolific seed production (>1000/m2)	y=1, n=-1	y
802	Evidence that a persistent propagule bank is formed (>1 yr)	y=1, n=-1	y
803	Well controlled by herbicides	y=-1, n=1	
804	Tolerates, or benefits from, mutilation, cultivation, or fire	y=1, n=-1	
805	Effective natural enemies present locally (e.g. introduced biocontrol agents)	y=-1, n=1	

Designation: H(HPWRA)

WRA Score 14

Supporting Data:

101	2010. WRA Specialist. Personal Communication.	No evidence of domestication.
201	2010. USDA, ARS, National Genetic Resources Program. Germplasm Resources Information Network (GRIN) [Online Database]. National Germplasm Resources Laboratory, Beltsville, Maryland http://www.ars-grin.gov/cgi-bin/npgs/html/index.pl	Native: United States - Kansas, Oklahoma, Colorado, Arkansas, Florida, Louisiana, New Mexico, Texas, Arizona, Utah; Costa Rica; El Salvador; Guatemala; Honduras; Nicaragua; Panama; French Guiana; Suriname; Brazil; Bolivia; Columbia; Ecuador; Peru; Argentina; Chile; Paraguay; Uruguay.
202	2010. USDA, ARS, National Genetic Resources Program. Germplasm Resources Information Network (GRIN) [Online Database]. National Germplasm Resources Laboratory, Beltsville, Maryland http://www.ars-grin.gov/cgi-bin/npgs/html/index.pl	Native: United States - Kansas, Oklahoma, Colorado, Arkansas, Florida, Louisiana, New Mexico, Texas, Arizona, Utah; Costa Rica; El Salvador; Guatemala; Honduras; Nicaragua; Panama; French Guiana; Suriname; Brazil; Bolivia; Columbia; Ecuador; Peru; Argentina; Chile; Paraguay; Uruguay.
204	2010. USDA, ARS, National Genetic Resources Program. Germplasm Resources Information Network (GRIN) [Online Database]. National Germplasm Resources Laboratory, Beltsville, Maryland http://www.ars-grin.gov/cgi-bin/npgs/html/index.pl	Native: United States - Kansas, Oklahoma, Colorado, Arkansas, Florida, Louisiana, New Mexico, Texas, Arizona, Utah; Costa Rica; El Salvador; Guatemala; Honduras; Nicaragua; Panama; French Guiana; Suriname; Brazil; Bolivia; Columbia; Ecuador; Peru; Argentina; Chile; Paraguay; Uruguay.
205	2010. WRA Specialist. Personal Communication.	No evidence of repeated introductions.
301	2010. Starr, F./Starr, K./Loope, L.L.. New plant records from the Hawaiian Archipelago. Records of the Hawaii Biological Survey for 2008 Bishop Museum Occasional Papers. 107: 66. http://hbs.bishopmuseum.org/pubs-online/pdf/op107p61.pdf	<i>Sporobolus pyramidatus</i> (Madagascar dropseed) is naturalized on Kure Atoll, Laysan, French Frigate Shoals, Kaua'i, o'ahu, Moloka'i, and Hawai'i, and Midway Atoll.
302	2007. Randall, R.. Global Compendium of Weeds. http://www.hear.org/gcw/	No evidence.
303	2007. Randall, R.. Global Compendium of Weeds. http://www.hear.org/gcw/	No evidence.
304	2007. Randall, R.. Global Compendium of Weeds. http://www.hear.org/gcw/	No evidence.
305	2001. Walton, C.. Weedy <i>Sporobolus</i> grasses strategy. Natural Resources and Mines, http://www.dpi.qld.gov.au/documents/Biosecurity-EnvironmentalPests/IPA-Weedy-Sporobolus-Strategy.pdf	In Australia the <i>Sporobolus indicus</i> complex are environmental and agricultural weeds. "Weedy sporobolus compete strongly in native grasslands and other natural ecosystems, reducing biodiversity, ecosystem function and conservation values. Management of weedy sporobolus in natural ecosystems is extremely difficult. Farm productivity is also reduced by complete displacement of desirable pasture species by tough unpalatable grasses that increase management costs unless management is altered."
401	2006 (onwards). Clayton, W.D./Harman, K.T./Williamson, H.. Grassbase the online world grass flora. http://www.kew.org/data/grasses-db.html .	No spines, thorns or burrs.
402	1971. Rasmussen, J.A./Rice, E.L.. Allelopathic effects of <i>Sporobolus pyramidatus</i> on vegetational patterning. 86: 309-326.	Rasmussen and Rice (1971) tested the allelopathic effects of <i>Sporobolus pyramidatus</i> ' leaf leachate and decayed root material on <i>Cynodon dactylon</i> , <i>Buchloe dactyloides</i> , and <i>Amaranthus palmeri</i> in a laboratory setting. They concluded that <i>S. pyramidatus</i> had allelopathic effects on seed germination for these species. [lab setting not field experiment] The field observations indicated that the decaying roots of <i>Sporobolus pyramicatus</i> may effect recruitment of other species and germination of <i>Sporobolus</i> seed.
402	2010. WRA Specialist. Personal Communication.	Unknown.
403	2006 (onwards). Clayton, W.D./Harman, K.T./Williamson, H.. Grassbase the online world grass flora. http://www.kew.org/data/grasses-db.html .	Not parasitic.

404	1998. Diaz, S./Cabido, M./Casanoves, F.. Plant functional traits and environmental filters at a regional scale. <i>Journal of Vegetation Science</i> . 9: 113-122. http://www.efn.uncor.edu/dep/divbioeco/biogeography/D%EDaz%20et%20al.%201998%20JVS.pdf	High palatability.
405	2010. National Center for Biotechnology Information. PubMed. U.S. National Library of Medicine, Bethesda, Maryland http://www.ncbi.nlm.nih.gov/sites/entrez	No evidence of toxicity.
405	2010. Specialized Information Services, U.S. National Library of Medicine. TOXNET Toxicology Data Network [Online Database]. National Institutes of Health, http://toxnet.nlm.nih.gov/	No evidence of toxicity.
406	2010. WRA Specialist. Personal Communication.	Unknown.
407	2010. National Center for Biotechnology Information. PubMed. U.S. National Library of Medicine, Bethesda, Maryland http://www.ncbi.nlm.nih.gov/sites/entrez	No evidence of toxicity or allergies to humans.
407	2010. Specialized Information Services, U.S. National Library of Medicine. TOXNET Toxicology Data Network [Online Database]. National Institutes of Health, http://toxnet.nlm.nih.gov/	No evidence of toxicity or allergies to humans.
408	2010. WRA Specialist. Personal Communication.	Unknown.
409	2010. WRA Specialist. Personal Communication.	Unknown.
410	. Smith, J.E.. Whorled dropseed <i>Sporobolus pyramidatus</i> (Lam.) A.S. Hitchc.. http://www.plant-materials.nrcs.usda.gov/pubs/txpmcfs7291.pdf	Grows on a wide variety of soil types, frequently on coastal sands and on sandy or saline clay or alkaline inland soils.
411	2006 (onwards). Clayton, W.D./Harman, K.T./Williamson, H.. Grassbase the online world grass flora. http://www.kew.org/data/grasses-db.html .	"Perennial; short-lived; caespitose. Culms geniculately ascending; 15–60 cm long; 1–1.5 mm diam."
412	2006 (onwards). Clayton, W.D./Harman, K.T./Williamson, H.. Grassbase the online world grass flora. http://www.kew.org/data/grasses-db.html .	"Perennial; short-lived; caespitose. Culms geniculately ascending; 15–60 cm long; 1–1.5 mm diam."
501	2006 (onwards). Clayton, W.D./Harman, K.T./Williamson, H.. Grassbase the online world grass flora. http://www.kew.org/data/grasses-db.html .	Terrestrial
502	2006 (onwards). Clayton, W.D./Harman, K.T./Williamson, H.. Grassbase the online world grass flora. http://www.kew.org/data/grasses-db.html .	Poaceae
503	2006 (onwards). Clayton, W.D./Harman, K.T./Williamson, H.. Grassbase the online world grass flora. http://www.kew.org/data/grasses-db.html .	Poaceae
504	2006 (onwards). Clayton, W.D./Harman, K.T./Williamson, H.. Grassbase the online world grass flora. http://www.kew.org/data/grasses-db.html .	Poaceae.
601	2010. WRA Specialist. Personal Communication.	No evidence.
602	. Smith, J.E.. Whorled dropseed <i>Sporobolus pyramidatus</i> (Lam.) A.S. Hitchc.. http://www.plant-materials.nrcs.usda.gov/pubs/txpmcfs7291.pdf	Seed viable for 10 years.
603	2010. WRA Specialist. Personal Communication.	Unknown.

604	2010. WRA Specialist. Personal Communication.	Unknown.
605	2006 (onwards). Clayton, W.D./Harman, K.T./Williamson, H.. Grassbase the online world grass flora. http://www.kew.org/data/grasses-db.html .	Wind pollinated. Poaceae.
606	2010. WRA Specialist. Personal Communication.	Unknown
607	2001. Walton, C.. Weedy Sporobolus grasses strategy. Natural Resources and Mines, http://www.dpi.qld.gov.au/documents/Biosecurity_EnvironmentalPests/IPA-Weedy-Sporobolus-Strategy.pdf	"Sporobolus can be fast growing, taking a minimum of three months to mature. However, plants may take years to mature if unfavourable conditions exist. Plants flower in mid to late summer in temperate areas but may flower year round depending on moisture availability in tropical areas." [Sporobolus indica complex description]
701	. Smith, J.E.. Whorled dropseed Sporobolus pyramidatus (Lam.) A.S. Hitchc.. http://www.plant-materials.nrcs.usda.gov/pubs/txpmcfs7291.pdf	"Whorled dropseed grows in open, disturbed sites (i.e., overgrazed sites, along roadways, etc.)." Seed dispersal is facilitated by sticky mature seeds.
701	2007. Pacific Ecosystems at Risk (PIER). Sporobolus pyramidatus. http://www.hear.org/pier/species/sporobolus_pyramidatus.htm	"Mature seeds become sticky when damp and are dispersed by attachment to animal fur, clothes, vehicles and machinery"
702	2010. WRA Specialist. Personal Communication.	No evidence of intentional dispersal by people.
703	2001. Walton, C.. Weedy Sporobolus grasses strategy. Natural Resources and Mines, http://www.dpi.qld.gov.au/documents/Biosecurity_EnvironmentalPests/IPA-Weedy-Sporobolus-Strategy.pdf	"Seeds are also distributed in mud, animal faeces (cattle can excrete 150,000 seeds/beast/day in summer with 28% viability), flowing water and as contaminants of seed and produce. In pasture areas, potential of spread is high via pasture seed, hay, milk tankers, fertiliser trucks, slashers and other farm machinery and in irrigation channels." [Sporobolus indicus complex level description]
703	2007. Pacific Ecosystems at Risk (PIER). Sporobolus pyramidatus. http://www.hear.org/pier/species/sporobolus_pyramidatus.htm	Dispersed as a contaminant of hay.
704	. Smith, J.E.. Whorled dropseed Sporobolus pyramidatus (Lam.) A.S. Hitchc.. http://www.plant-materials.nrcs.usda.gov/pubs/txpmcfs7291.pdf	Spikelets are approximately 1/16 inch long, awnless and on a glabrous pedicel. [No adaptation for wind-dispersal.]
705	2001. Walton, C.. Weedy Sporobolus grasses strategy. Natural Resources and Mines, http://www.dpi.qld.gov.au/documents/Biosecurity_EnvironmentalPests/IPA-Weedy-Sporobolus-Strategy.pdf	"Seeds are also distributed in mud, animal faeces (cattle can excrete 150,000 seeds/beast/day in summer with 28% viability), flowing water and as contaminants of seed and produce." [Sporobolus indicus complex level description].
705	2007. Pacific Ecosystems at Risk (PIER). Sporobolus pyramidatus. http://www.hear.org/pier/species/sporobolus_pyramidatus.htm	Dispersed by water.
706	2010. WRA Specialist. Personal Communication.	Unknown.
707	. Smith, J.E.. Whorled dropseed Sporobolus pyramidatus (Lam.) A.S. Hitchc.. http://www.plant-materials.nrcs.usda.gov/pubs/txpmcfs7291.pdf	"Seed dispersal facilitated by sticky mature seed."
707	2001. Walton, C.. Weedy Sporobolus grasses strategy. Natural Resources and Mines, http://www.dpi.qld.gov.au/documents/Biosecurity_EnvironmentalPests/IPA-Weedy-Sporobolus-Strategy.pdf	"Mature seeds become sticky when damp and are dispersed by attachment to animal fur, clothes, vehicles and machinery" [Sporobolus indicus complex level description].
707	2007. Pacific Ecosystems at Risk (PIER). Sporobolus pyramidatus. http://www.hear.org/pier/species/sporobolus_pyramidatus.htm	"Mature seeds become sticky when damp and are dispersed by attachment to animal fur, clothes, vehicles and machinery"

708	2001. Walton, C.. Weedy Sporobolus grasses strategy. Natural Resources and Mines, http://www.dpi.qld.gov.au/documents/Biosecurity_EnvironmentalPests/IPA-Weedy-Sporobolus-Strategy.pdf	"Seeds are also distributed in mud, animal faeces (cattle can excrete 150,000 seeds/beast/day in summer with 28% viability)."
801	2001. Walton, C.. Weedy Sporobolus grasses strategy. Natural Resources and Mines, http://www.dpi.qld.gov.au/documents/Biosecurity_EnvironmentalPests/IPA-Weedy-Sporobolus-Strategy.pdf	"Seed production is very high (GRT 60,000 seeds/m2/year after slashing, 30,000 seeds/m2/year under grazing, GPG 150,000 seeds/m2)." [Sporobolus indicus complex level description]
802	. Smith, J.E.. Whorled dropseed Sporobolus pyramidatus (Lam.) A.S. Hitchc.. http://www.plant-materials.nrcs.usda.gov/pubs/txpmcfs7291.pdf	Seeds are viable for 10 years.
803	2010. WRA Specialist. Personal Communication.	Unknown.
804	2010. WRA Specialist. Personal Communication.	Unknown.
805	2010. WRA Specialist. Personal Communication.	Unknown.