

Family: *Poaceae*

Taxon: *Andropogon bicornis*

Synonym:

Common Name: West Indian foxtail grass
barbas de indio

Questionnaire :	current 20090513	Assessor:	Patti Clifford	Designation: H(HPWRA)
Status:	Assessor Approved	Data Entry Person:	Patti Clifford	WRA Score 18
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	y
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	n
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)	y
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	y
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	
408	Creates a fire hazard in natural ecosystems		y=1, n=0	y
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	y
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	y
604	Self-compatible or apomictic	y=1, n=-1	y
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	
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	n
703	Propagules likely to disperse as a produce contaminant	y=1, n=-1	
704	Propagules adapted to wind dispersal	y=1, n=-1	y
705	Propagules water dispersed	y=1, n=-1	y
706	Propagules bird dispersed	y=1, n=-1	n
707	Propagules dispersed by other animals (externally)	y=1, n=-1	n
708	Propagules survive passage through the gut	y=1, n=-1	y
801	Prolific seed production (>1000/m2)	y=1, n=-1	
802	Evidence that a persistent propagule bank is formed (>1 yr)	y=1, n=-1	
803	Well controlled by herbicides	y=-1, n=1	
804	Tolerates, or benefits from, mutilation, cultivation, or fire	y=1, n=-1	y
805	Effective natural enemies present locally (e.g. introduced biocontrol agents)	y=-1, n=1	

Designation: H(HPWRA)

WRA Score 18

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/taxon.pl?317906	Native: Mexico; Belize; Costa Rica; El Salvador; Guatemala; Honduras; Nicaragua; Panama; Antigua and Barbuda; Barbados; Cuba; Dominica; Grenada; Guadeloupe; Hispaniola; Jamaica; Martinique; Montserrat; Puerto Rico; St. Kitts and Nevis; St. Lucia; St. Vincent and Grenadine French Guiana; Guyana; Suriname; Venezuela; Bolivia; Colombia; Ecuador; Peru; Argentina; Paraguay
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/taxon.pl?317906	Native: Mexico; Belize; Costa Rica; El Salvador; Guatemala; Honduras; Nicaragua; Panama; Antigua and Barbuda; Barbados; Cuba; Dominica; Grenada; Guadeloupe; Hispaniola; Jamaica; Martinique; Montserrat; Puerto Rico; St. Kitts and Nevis; St. Lucia; St. Vincent and Grenadine French Guiana; Guyana; Suriname; Venezuela; Bolivia; Colombia; Ecuador; Peru; Argentina; Paraguay
203	2003. Hammel, B.E./Grayum, M.H./Herrera, C./Zamora, N. (eds.). Manual de Plantas de Costa Rica Vol. III Monocotiledoneas (Orchidaceae-Zingiberaceae). Missouri Botanical Garden, St. Louis	Elevational range in Costa Rica: 0-1850 m.
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/taxon.pl?317906	Native: Mexico; Belize; Costa Rica; El Salvador; Guatemala; Honduras; Nicaragua; Panama; Antigua and Barbuda; Barbados; Cuba; Dominica; Grenada; Guadeloupe; Hispaniola; Jamaica; Martinique; Montserrat; Puerto Rico; St. Kitts and Nevis; St. Lucia; St. Vincent and Grenadine French Guiana; Guyana; Suriname; Venezuela; Bolivia; Colombia; Ecuador; Peru; Argentina; Paraguay
205	2010. WRA Specialist. Personal Communication.	No evidence of repeated introductions.
301	2010. WRA Specialist. Personal Communication.	No evidence.
302	2007. Randall, R.P.. Global Compendium of Weeds. http://www.hear.org/gcw/	No evidence.
303	1979. Doll, J.D.. Forage weed problems in acid infertile soils. Centro Internacional de Agricultura Tropical, Cali	<i>Andropogon bicornis</i> is a weed of tropical pastures, where it is controlled mainly through mechanical methods. This grass is unpalatable and reduces forage value.
303	2010. Food and Agriculture Organization of the United Nations. Database of weed species in crops and countries. Food and Agriculture Organization of the United States, http://www.fao.org/agriculture/crops/core-themes/theme/biodiversity/weeds/db-countries	Listed by the FAO Database of weed species in crops and Countries as a weed of sugarcane.
304	2007. Randall, R.P.. Global Compendium of Weeds. http://www.hear.org/gcw/	No evidence.
305	2003. Weber, E.. Invasive Plant Species of the World. A Reference Guide to Environmental Weeds.. CABI Publishing, Wallingford, UK	<i>Andropogon virginicus</i> is invasive in Australia and Hawaii. In Hawaii it forms dense stands in bogs, open mesic and dry habitats. It is highly flammable and affects fire regimes by increasing fire intensity and acreage burned.
401	2003. Hammel, B.E./Grayum, M.H./Herrera, C./Zamora, N. (eds.). Manual de Plantas de Costa Rica Vol. III Monocotiledoneas (Orchidaceae-Zingiberaceae). Missouri Botanical Garden, St. Louis	No spines, thorns or burrs.
402	2010. WRA Specialist. Personal Communication.	Unknown.
403	2003. Hammel, B.E./Grayum, M.H./Herrera, C./Zamora, N. (eds.). Manual de Plantas de Costa Rica Vol. III Monocotiledoneas (Orchidaceae-Zingiberaceae). Missouri Botanical Garden, St. Louis	Not parasitic.
404	1979. Doll, J.D.. Forage weed problems in acid infertile soils. Centro Internacional de Agricultura Tropical, Cali	<i>Andropogon bicornis</i> is unpalatable.

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.
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.
406	2010. WRA Specialist. Personal Communication.	Unknown.
407	2010. WRA Specialist. Personal Communication.	Unknown.
408	2010. Romero-Ruiz, M./Etter, A./Sarmiento, A./Tansey, K.. Spatial and temporal variability of fires in relation to ecosystems, land tenure and rainfall in savannas of northern South America. <i>Global Change Biology</i> . 16: 2013-2023. http://zu71q2cc9q.search.se	<i>Andropogon bicornis</i> is a member terrace and alluvial overflow plain savannas in South America. These savannas are dense tussocked grasslands that are naturally subject to frequent fires.
409	2010. WRA Specialist. Personal Communication.	Unknown.
410	1979. Doll, J.D.. Forage weed problems in acid infertile soils. Centro Internacional de Agricultura Tropical, Cali	<i>Andropogon bicornis</i> is able to invade acid infertile soils
411	2003. Hammel, B.E./Grayum, M.H./Herrera, C./Zamora, N. (eds.). <i>Manual de Plantas de Costa Rica Vol. III Monocotiledoneas (Orchidaceae-Zingiberaceae)</i> . Missouri Botanical Garden, St. Louis	Plants 80-200 cm high. Poaceae
412	1983. Haselwood, E.L./Motter, G.G./Hirano, R.T. (eds.). <i>Handbook of Hawaiian weeds</i> . University of Hawaii Press, Honolulu	"A prolific seeder that forms dense stands and shades out more desirable forage"
501	2003. Hammel, B.E./Grayum, M.H./Herrera, C./Zamora, N. (eds.). <i>Manual de Plantas de Costa Rica Vol. III Monocotiledoneas (Orchidaceae-Zingiberaceae)</i> . Missouri Botanical Garden, St. Louis	Terrestrial.
502	2003. Hammel, B.E./Grayum, M.H./Herrera, C./Zamora, N. (eds.). <i>Manual de Plantas de Costa Rica Vol. III Monocotiledoneas (Orchidaceae-Zingiberaceae)</i> . Missouri Botanical Garden, St. Louis	Poaceae.
503	2003. Hammel, B.E./Grayum, M.H./Herrera, C./Zamora, N. (eds.). <i>Manual de Plantas de Costa Rica Vol. III Monocotiledoneas (Orchidaceae-Zingiberaceae)</i> . Missouri Botanical Garden, St. Louis	Poaceae.
504	2003. Hammel, B.E./Grayum, M.H./Herrera, C./Zamora, N. (eds.). <i>Manual de Plantas de Costa Rica Vol. III Monocotiledoneas (Orchidaceae-Zingiberaceae)</i> . Missouri Botanical Garden, St. Louis	Poaceae.
601	2010. WRA Specialist. Personal Communication.	No evidence of substantial reproductive failure in native habitat.
602	1983. Haselwood, E.L./Motter, G.G./Hirano, R.T. (eds.). <i>Handbook of Hawaiian weeds</i> . University of Hawaii Press, Honolulu	Propagated by seed.
603	1987. Campbell, C.S./Windisch, P.G.. Hybridization among three species of <i>Andropogon</i> (Poaceae: Andropogoneae) in southern Brazil. <i>Bulletin of the Torrey Botanical Club</i> . 114: 402-406.	In Brazil, <i>Andropogon arenarius</i> , <i>Andropogon bicornis</i> , and <i>Andropogon lateralis</i> have hybridized. Morphological intermediates have been observed in the field for all three possible hybridizations involving these three morphologically distinct species.

604	1987. Campbell, C.S./Windisch, P.G.. Hybridization among three species of <i>Andropogon</i> (Poaceae: Andropogoneae) in southern Brazil. <i>Bulletin of the Torrey Botanical Club</i> . 114: 402-406.	<i>Andropogon bicornis</i> is self-compatible. "Using fluorescence microscopy, we observed numerous pollen tubes growing in the styles of an isolated individual of <i>A. bicorni</i> ."
605	2003. Hammel, B.E./Grayum, M.H./Herrera, C./Zamora, N. (eds.). <i>Manual de Plantas de Costa Rica Vol. III Monocotiledoneas (Orchidaceae-Zingiberaceae)</i> . Missouri Botanical Garden, St. Louis	Poaceae. Wind pollinated.
606	2010. WRA Specialist. Personal Communication.	Unknown.
607	2010. WRA Specialist. Personal Communication.	Unknown.
701	1983. Haselwood, E.L./Motter, G.G./Hirano, R.T. (eds.). <i>Handbook of Hawaiian weeds</i> . University of Hawaii Press, Honolulu	<i>Andropogon bicornis</i> is believed to be an accidental introduction to Hawaii.
702	2010. WRA Specialist. Personal Communication.	No evidence of intentional dispersal.
703	2010. WRA Specialist. Personal Communication.	Unknown.
704	2009. Silva, I.A./Cianciaruso, M.V./Batalha, M.A.. Dispersal modes and fruiting periods in hyperseasonal and seasonal savannas, central Brazil. <i>Revista Brasil Botany</i> . 32: 155-163.	Anemochorus.
705	1978. Croats, T.B.. <i>Flora of Barro Colorado Island</i> . Stanford University Press, Stanford	On the Barro Colorado Island, <i>Andropogon bicornis</i> " is common in clearings, often the dominant plant in small navigational-sigh clearings along the canal; also commonly encountered in marshes. Seems to flower principally in the rainy season."
706	1978. Croats, T.B.. <i>Flora of Barro Colorado Island</i> . Stanford University Press, Stanford	On the Barro Colorado Island, <i>Andropogon bicornis</i> " is common in clearings, often the dominant plant in small navigational-sigh clearings along the canal; also commonly encountered in marshes. Seems to flower principally in the rainy season."
706	2009. Silva, I.A./Cianciaruso, M.V./Batalha, M.A.. Dispersal modes and fruiting periods in hyperseasonal and seasonal savannas, central Brazil. <i>Revista Brasil Botany</i> . 32: 155-163.	Wind-dispersed.
707	1978. Croats, T.B.. <i>Flora of Barro Colorado Island</i> . Stanford University Press, Stanford	On the Barro Colorado Island, <i>Andropogon bicornis</i> " is common in clearings, often the dominant plant in small navigational-sigh clearings along the canal; also commonly encountered in marshes. Seems to flower principally in the rainy season."
707	2009. Silva, I.A./Cianciaruso, M.V./Batalha, M.A.. Dispersal modes and fruiting periods in hyperseasonal and seasonal savannas, central Brazil. <i>Revista Brasil Botany</i> . 32: 155-163.	Wind-dispersed.
708	1983. Uhl, C./Clark, K.. Seed ecology of selected Amazon Basin successional species. <i>Botanical Gazette</i> . 144: 419-425.	"The most frequently occurring species (i.e., five or more germinations recorded in the soil block samples) in the farm site seed bank were <i>Paspalum decumbens</i> Swartz, <i>Panicum pilosum</i> , <i>Cyperus diffusus</i> Vahl, <i>Eupatorium cerasifolium</i> , <i>Cecropia ficifolia</i> , <i>S. subinerme</i> , <i>G. glabra</i> , <i>Pali- courea</i> sp., <i>Vismia</i> spp., and <i>Phyllanthus</i> sp. The most frequently occurring taxa in the pasture site seed bank were <i>C. diffusus</i> , <i>Andropogon leuco- stachyus</i> H. B. K., <i>Andropogon bicornis</i> L., <i>Borreria latifolia</i> , <i>Unxia camphorate</i> L.f., and <i>Rhyncho- spora</i> sp. The role of cattle in concentrating seeds is evidenced by the extremely high number of germinations in the cattle droppings. Viable seeds in cow feces were restricted almost entirely to grasses and forbs."
801	1983. Haselwood, E.L./Motter, G.G./Hirano, R.T. (eds.). <i>Handbook of Hawaiian weeds</i> . University of Hawaii Press, Honolulu	Prolific seed producer. [doesn't mention numbers]
802	2010. WRA Specialist. Personal Communication.	Unknown.
803	2010. WRA Specialist. Personal Communication.	Unknown.

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- 804 2010. Romero-Ruiz, M./Etter, A./Sarmiento, A./Tansey, K.. Spatial and temporal variability of fires in relation to ecosystems, land tenure and rainfall in savannas of northern South America. *Global Change Biology*. 16: 2013-2023.<http://zu7lq2cc9q.search.se>
- 805 2010. WRA Specialist. Personal Communication. Unknown.
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