

**Australia/New Zealand Weed Risk Assessment adapted for Florida.**

**Data used for analysis published in: Gordon, D.R., D.A. Onderdonk, A.M. Fox, R.K. Stocker, and C. Gantz. 2008. Predicting Invasive Plants in Florida using the Australian Weed Risk Assessment. Invasive Plant Science and Management 1: 178-195.**

<i>Sporobolus indicus (smutgrass)</i>			
Question number	Question	Answer	Score
1.01	Is the species highly domesticated?	n	0
1.02	Has the species become naturalised where grown?		
1.03	Does the species have weedy races?		
2.01	Species suited to Florida's USDA climate zones (0-low; 1-intermediate; 2-high)	2	
2.02	Quality of climate match data (0-low; 1-intermediate; 2-high)	2	
2.03	Broad climate suitability (environmental versatility)		
2.04	Native or naturalized in habitats with periodic inundation	y	1
2.05	Does the species have a history of repeated introductions outside its natural range?	y	
3.01	Naturalized beyond native range	y	0
3.02	Garden/amenity/disturbance weed	y	0
3.03	Weed of agriculture	y	0
3.04	Environmental weed	y	0
3.05	Congeneric weed	?	
4.01	Produces spines, thorns or burrs	n	0
4.02	Allelopathic	n	0
4.03	Parasitic	n	0
4.04	Unpalatable to grazing animals	y	1
4.05	Toxic to animals	n	0
4.06	Host for recognised pests and pathogens		
4.07	Causes allergies or is otherwise toxic to humans	n	0
4.08	Creates a fire hazard in natural ecosystems	y	1
4.09	Is a shade tolerant plant at some stage of its life cycle	?	
4.1	Grows on infertile soils (oligotrophic, limerock, or excessively draining soils)		
4.11	Climbing or smothering growth habit	n	0
4.12	Forms dense thickets	?	
5.01	Aquatic	n	0

5.02	Grass	y	1
5.03	Nitrogen fixing woody plant	n	0
5.04	Geophyte	n	0
6.01	Evidence of substantial reproductive failure in native habitat		
6.02	Produces viable seed	y	1
6.03	Hybridizes naturally		
6.04	Self-compatible or apomictic		
6.05	Requires specialist pollinators	n	0
6.06	Reproduction by vegetative fragmentation	n	-1
6.07	Minimum generative time (years)	1	1
7.01	Propagules likely to be dispersed unintentionally (plants growing in heavily trafficked areas)	y	1
7.02	Propagules dispersed intentionally by people	n	-1
7.03	Propagules likely to disperse as a produce contaminant	n	-1
7.04	Propagules adapted to wind dispersal	y	1
7.05	Propagules water dispersed	y	1
7.06	Propagules bird dispersed	n	-1
7.07	Propagules dispersed by other animals (externally)	y	1
7.08	Propagules dispersed by other animals (internally)	n	-1
8.01	Prolific seed production	y?	1
8.02	Evidence that a persistent propagule bank is formed (>1 yr)	y?	1
8.03	Well controlled by herbicides	y	-1
8.04	Tolerates, or benefits from, mutilation or cultivation		
8.05	Effective natural enemies present in Florida, or east of the continental divide		
<b>Total Score</b>			<b>18</b>

<b>Outcome</b>	<b>Reject*</b>
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\*Used secondary screen from: Daehler, C. C., J.L. Denslow, S. Ansari, and H. Kuo. 2004. A risk assessment system for screening out harmful invasive pest plants from Hawaii's and other Pacific islands. *Conserv. Biol.* 18: 360-368.

section	# questions answered	satisfy minimum?
A	6	yes
B	8	yes
C	19	yes
total	33	yes

Data collected 2006-2007

Question number	Reference	Source data
1.01		no evidence of cultivation
1.02		
1.03		
2.01		
2.02		
2.03		
2.04	Parsons and Cuthbertson (2001) Noxious Weeds of Australia. CSIRO Publishing.	"Parramatta grass is particularly aggressive in wet and swampy soils"
2.05	Parsons and Cuthbertson (2001) Noxious Weeds of Australia. CSIRO Publishing.	"A native of South Africa, Parramatta grass has been introduced to North and South America, southern Asia, Indonesia, Hawaii, the South Pacific Islands, New Zealand and Australia."
3.01	Wagner, Herbst, and Sohmer (1999) Manual of the flowering plants of Hawai'i. University of Hawai'i Press/Bishop Museum Press, Honolulu.	"Native to the Neotropics [but see above], now widely naturalized in tropical regions; in Hawai'i naturalized in disturbed areas"
3.02	Parsons and Cuthbertson (2001) Noxious Weeds of Australia. CSIRO Publishing.	"occurring as a weed in disturbed soils on roadsides and waste places"
3.03	1. Parsons and Cuthbertson (2001) Noxious Weeds of Australia. CSIRO Publishing. 2. Holm (1979) A Geographical Atlas of World Weeds. John Wiley and Sons. 3. Roy, Popay, Champion, James, and Rahman (2004) An Illustrated Guide to Common Weeds of New Zealand. 2nd edition. New Zealand Plant Protection Society.	1. "often becoming dominant in open sunny situations and seriously reducing pasture production" 2. a common weed of agriculture in Japan, the Philippines, and Trinidad. 3. <i>S. africanus</i> (synonym) is a weed of dry northern pastures in New Zealand.
3.04	Weber (2003) Invasive Plant Species of the World. CABI Publishing.	Considered an environmental weed in Australia, New Zealand, and Hawaii.
3.05		taxonomy very confused -

		unclear what is synonym and what is congener
4.01	Parsons and Cuthbertson (2001) Noxious Weeds of Australia. CSIRO Publishing.	no description of these traits
4.02		no evidence
4.03	Parsons and Cuthbertson (2001) Noxious Weeds of Australia. CSIRO Publishing.	no description of this
4.04	1. Parsons and Cuthbertson (2001) Noxious Weeds of Australia. CSIRO Publishing. 2. Mislevy, Shilling, Martin, and Hatch (1999) Smutgrass ( <i>Sporobolus indicus</i> ) control in bahiagrass ( <i>Paspalum notatum</i> ) pastures. Weed Technology 13: 571-575.	1. "a tough unpalatable perennial tussock grass" 2. "Mature smutgrass forage is generally unpalatable to cattle. However, cattle will readily consume the regrowth of smutgrass for about 2 to 3 wk following a burn or mowing."
4.05		no evidence
4.06		
4.07		no evidence
4.08	Weber (2003) Invasive Plant Species of the World. CABI Publishing.	"The grass produces large amounts of dead biomass promoting the occurrence of wildfires."
4.09	Parsons and Cuthbertson (2001) Noxious Weeds of Australia. CSIRO Publishing.	"often becoming dominant in open sunny situations"
4.1		
4.11	USDA, NRCS. 2005. The PLANTS Database, Version 3.5 ( <a href="http://plants.usda.gov">http://plants.usda.gov</a> ). Data compiled from various sources by Mark W. Skinner. National Plant Data Center, Baton Rouge, LA 70874-4490 USA.	growth habit: graminoid
4.12	Weber (2003) Invasive Plant Species of the World. CABI Publishing.	"Where invasive, the grass forms a dense cover eliminating native vegetation and preventing regeneration of shrubs and trees." [but only up to about 1 m tall]
5.01		terrestrial
5.02	USDA, NRCS. 2005. The PLANTS Database, Version 3.5 ( <a href="http://plants.usda.gov">http://plants.usda.gov</a> ). Data compiled from various sources by Mark W. Skinner. National Plant Data Center, Baton Rouge, LA 70874-4490 USA.	Poaceae
5.03	USDA, NRCS. 2005. The PLANTS Database, Version 3.5 ( <a href="http://plants.usda.gov">http://plants.usda.gov</a> ). Data compiled from various sources by Mark W. Skinner. National Plant Data Center, Baton Rouge, LA 70874-4490 USA.	herbaceous Poaceae
5.04	Parsons and Cuthbertson (2001) Noxious Weeds of Australia. CSIRO Publishing.	roots fibrous
6.01		
6.02	Parsons and Cuthbertson (2001) Noxious Weeds of Australia. CSIRO Publishing.	"reproducing by seed"
6.03		
6.04		
6.05		likely wind-pollinated (grass)
6.06	Parsons and Cuthbertson (2001) Noxious Weeds of	"The only means of spread is

	Australia. CSIRO Publishing.	by seed."
6.07	Parsons and Cuthbertson (2001) Noxious Weeds of Australia. CSIRO Publishing.	"Seeds germinate in spring, the young seedlings developing rapidly and producing flowering stems in mid- to late-summer."
7.01	Parsons and Cuthbertson (2001) Noxious Weeds of Australia. CSIRO Publishing.	"At maturity, seeds become sticky when damp...From there they readily attach to animal fur, clothes and machinery. Some seed also spreads in mud sticking to animal hooves, footwear and machinery."
7.02		no evidence
7.03		no evidence
7.04	Mislevy, Shilling, Martin, and Hatch (1999) Smutgrass ( <i>Sporobolus indicus</i> ) control in bahiagrass ( <i>Paspalum notatum</i> ) pastures. Weed Technology 13: 571-575.	seeds are spread by wind
7.05	Mislevy, Shilling, Martin, and Hatch (1999) Smutgrass ( <i>Sporobolus indicus</i> ) control in bahiagrass ( <i>Paspalum notatum</i> ) pastures. Weed Technology 13: 571-575.	seeds are spread by water
7.06		wind-dispersed grass
7.07	Parsons and Cuthbertson (2001) Noxious Weeds of Australia. CSIRO Publishing.	"At maturity, seeds become sticky when damp...From there they readily attach to animal fur, clothes and machinery. Some seed also spreads in mud sticking to animal hooves, footwear and machinery."
7.08		wind-dispersed grass
8.01	1. Parsons and Cuthbertson (2001) Noxious Weeds of Australia. CSIRO Publishing. 2. Mislevy, Shilling, Martin, and Hatch (1999) Smutgrass ( <i>Sporobolus indicus</i> ) control in bahiagrass ( <i>Paspalum notatum</i> ) pastures. Weed Technology 13: 571-575.	1. "it is known to produce immense quantities of seed, for example, an average of 300 seeds per inflorescence and over two million seed heads per hectare has been recorded. Much of the seed, however, appears to be dormant or non-viable." 2. "smutgrass produced in excess of 45,000 seed per plant, with over 1,400 seed per panicle"
8.02	1. Weber (2003) Invasive Plant Species of the World. CABI Publishing. 2. Mislevy, Shilling, Martin, and Hatch (1999) Smutgrass ( <i>Sporobolus indicus</i> ) control in bahiagrass ( <i>Paspalum notatum</i> ) pastures. Weed Technology 13: 571-575.	1. "A large seed bank accumulates in the soil." 2. "Smutgrass seeds remain viable for 2 or more yr" [unclear whether in soil or not]
8.03	Parsons and Cuthbertson (2001) Noxious Weeds of Australia. CSIRO Publishing.	"Spraying with flupropanate before seed heads appear gives good selective

		control...Non-selective control can be obtained with 2,2-DPA, amitrole + 2,2-DPA mixtures, amitrole + atrazine mixtures or with fluazifop."
8.04		
8.05		