

<i>Chrysopogon zizanioides</i> [Domesticated] (Cuscus Grass, Khus-Khus (Grass), Vetiver (Grass))		Answer	Score
1.01	Is the species highly domesticated?	0	
1.02	Has the species become naturalised where grown?		
1.03	Does the species have weedy races?		
2.01	Species suited to FL climates (USDA hardiness 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)	y	1
2.04	Native or naturalized in regions with an average of 11-60 inches of annual precipitation	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	2
3.02	Garden/amenity/disturbance weed		
3.03	Weed of agriculture		
3.04	Environmental weed		
3.05	Congeneric weed		
4.01	Produces spines, thorns or burrs		
4.02	Allelopathic	n	0
4.03	Parasitic	n	0
4.04	Unpalatable to grazing animals	?	
4.05	Toxic to animals		
4.06	Host for recognised pests and pathogens		
4.07	Causes allergies or is otherwise toxic to humans		
4.08	Creates a fire hazard in natural ecosystems		
4.09	Is a shade tolerant plant at some stage of its life cycle		
4.10	Grows on infertile soils (oligotrophic, limerock, or excessively draining soils). North & Central Zones: infertile soils; South Zone: shallow limerock or Histisols.	y	1
4.11	Climbing or smothering growth habit	n	0
4.12	Forms dense thickets	y	1
5.01	Aquatic		
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		
6.06	Reproduction by vegetative propagation	y	1
6.07	Minimum generative time (years)		

7.01	Propagules likely to be dispersed unintentionally (plants growing in heavily trafficked areas)		
7.02	Propagules dispersed intentionally by people	y	1
7.03	Propagules likely to disperse as a produce contaminant		
7.04	Propagules adapted to wind dispersal		
7.05	Propagules water dispersed		
7.06	Propagules bird dispersed		
7.07	Propagules dispersed by other animals (externally)		
7.08	Propagules dispersed by other animals (internally)		
8.01	Prolific seed production	?	
8.02	Evidence that a persistent propagule bank is formed (>1 yr)	?	
8.03	Well controlled by herbicides		
8.04	Tolerates, or benefits from, mutilation or cultivation	?	
8.05	Effective natural enemies present in U.S.		
	Total Score		10
	Implemented Pacific Second Screening		No
	Risk Assessment Results		Reject

	Reference	Source data
1.01	1.a-b. USDA NRCS Pacific Islands Area Plant Materials Program. Plant Guide for 'Sunshine' Vetivergrass <i>Chrysopogon zizanioides</i> (L.) Roberty. http://www.vetiver.org/USA-USDA-NRCS_Sunshine.pdf .	Widely cultivated. 1.a. 'Sunshine' (domesticated genotype from South India) is the only vetivergrass recommended by NRCS and land-grant universities for use in the NRCS Pacific Island Area and must be propagated asexually because it is non-fertile. 1.b. Two taxa of vetivergrass: wild-type from north India (produces fertile seed) and the domesticated from south India (essentially sterile).
1.02		
1.03		
2.01	1. PERAL NAPPFAST Global Plant Hardiness (http://www.nappfast.org/Plant_hardiness/NAPPFAST%20Global%20zones/10-year%20climate/PLANT_HARDINESS_10YR%20lgnd.tif) & USDA Plant Hardiness Zone Map, 2012. Agricultural Research Service, U.S. Department of Agriculture. Accessed from http://planthardiness.ars.usda.gov . 2. USDA/ARS-GRIN [Online Database]. National Germplasm Resources Laboratory, Beltsville, Maryland. http://www.ars-grin.gov/cgi-bin/npgs/html/taxgenform.pl?language=en (02 July 2012).	No computer analysis was performed. 1. Global plant hardiness zones 8-13; equivalent to USDA Hardiness zones 8a-11b+ (north, central, & south zones of Florida). 2. Native distributional range: India, Pakistan, Sri Lanka; Naturalized range: Australia, South America (Costa Rica); Cultivated range: Africa (Algeria), China, North America, South America (Costa Rica).
2.02		No computer analysis was performed. Native range is well known; refer to 2.01 source data.
2.03	1. Köppen-Geiger climate map (http://www.hydrol-earth-syst-sci.net/11/1633/2007/hess-11-1633-2007.pdf).	1. Native distribution appears to be in at least three climatic groups (Af, Am, Aw, BWh, Cwa) and possibly two additional climatic group (BSh, Cwb).
2.04	1. Maps of India. Annual Rainfall Map of India. http://www.mapsofindia.com/maps/india/annualrainfall.htm# .	1. India: 100 cm-200 cm (39.4"-78.7").
2.05	1. USDA/ARS-GRIN [Online Database]. National Germplasm Resources Laboratory, Beltsville, Maryland. http://www.ars-grin.gov/cgi-bin/npgs/html/taxgenform.pl?language=en (02 July 2012). 2. USDA, NRCS. 2012. The PLANTS Database (http://plants.usda.gov , 2 July 2012). National Plant Data Team, Greensboro, NC 27401-4901 USA.	1. Cultivated in Africa (Algeria), China, North America, South America (Costa Rica). 2. Present in Louisiana and Puerto Rico.

3.01	1. USDA/ARS-GRIN [Online Database]. National Germplasm Resources Laboratory, Beltsville, Maryland. http://www.ars-grin.gov/cgi-bin/npgs/html/taxgenform.pl?language=en (02 July 2012). 2. Pacific Island Ecosystems at Risk (PIER). Global Compendium of Weeds. http://www.hear.org . Accessed 25 June 2012 via: Hosking, J. NSW Department of Agriculture, Weed Database. 30 April 2003.	1. Naturalized in Australia, South America (Costa Rica). 2. Naturalized in New South Wales, Australia.
3.02		
3.03		
3.04		
3.05		
4.01		
4.02	1. USDA, NRCS. 2012. The PLANTS Database (http://plants.usda.gov , 2 July 2012). National Plant Data Team, Greensboro, NC 27401-4901 USA.	1. Not known as allelopathic.
4.03	1. USDA, NRCS. 2012. The PLANTS Database (http://plants.usda.gov , 2 July 2012). National Plant Data Team, Greensboro, NC 27401-4901 USA.	1. Family: <i>Poaceae</i> (not a parasitic family).
4.04	1. USDA, NRCS. 2012. The PLANTS Database (http://plants.usda.gov , 2 July 2012). National Plant Data Team, Greensboro, NC 27401-4901 USA.	1. Not a fodder product. Palatability for browse and graze animals is low.
4.05		
4.06		
4.07		
4.08	1. USDA, NRCS. 2012. The PLANTS Database (http://plants.usda.gov , 2 July 2012). National Plant Data Team, Greensboro, NC 27401-4901 USA.	1. Resistant to fire.
4.09		
4.10	1. USDA, NRCS. 2012. The PLANTS Database (http://plants.usda.gov , 2 July 2012). National Plant Data Team, Greensboro, NC 27401-4901 USA.	1. Adapted to fine-textured soils with low fertility.
4.11	1. USDA, NRCS. 2012. The PLANTS Database (http://plants.usda.gov , 2 July 2012). National Plant Data Team, Greensboro, NC 27401-4901 USA.	1. Family: <i>Poaceae</i> . Growth form: bunch to 7' at maturity.
4.12	1. USDA, NRCS. 2012. The PLANTS Database (http://plants.usda.gov , 2 July 2012). National Plant Data Team, Greensboro, NC 27401-4901 USA.	1.a. Growth form: bunch; low growing grass. 1.b. Foliage porosity is moderate (winter) to dense (summer)
5.01		
5.02	1. USDA, NRCS. 2012. The PLANTS Database (http://plants.usda.gov , 2 July 2012). National Plant Data Team, Greensboro, NC 27401-4901 USA.	1. Family: <i>Poaceae</i> .
5.03	1. USDA, NRCS. 2012. The PLANTS Database (http://plants.usda.gov , 2 July 2012). National Plant Data Team, Greensboro, NC 27401-4901 USA.	1. Family: <i>Poaceae</i> .

5.04	1. USDA, NRCS. 2012. The PLANTS Database (http://plants.usda.gov , 2 July 2012). National Plant Data Team, Greensboro, NC 27401-4901 USA.	1. Not propagated by bulbs, tubers, or corms.
6.01		
6.02	1. USDA, NRCS. 2012. The PLANTS Database (http://plants.usda.gov , 2 July 2012). National Plant Data Team, Greensboro, NC 27401-4901 USA. 2. USDA NRCS Pacific Islands Area Plant Materials Program. Plant Guide for 'Sunshine' Vetivergrass <i>Chrysopogon zizanioides</i> (L.) Roberty. http://www.vetiver.org/USA-USDA-NRCS_Sunshine.pdf .	1. Propagated by seed. 2. Two taxa of vetivergrass: wild-type from north India (produces fertile seed) and the domesticated from south India (essentially sterile).
6.03		
6.04		
6.05		
6.06	1. USDA, NRCS. 2012. The PLANTS Database (http://plants.usda.gov , 2 July 2012). National Plant Data Team, Greensboro, NC 27401-4901 USA.	1.a. Propagated by bare roots and sprigs. 1.b. Moderate vegetative spread rate.
6.07	1. USDA, NRCS. 2012. The PLANTS Database (http://plants.usda.gov , 2 July 2012). National Plant Data Team, Greensboro, NC 27401-4901 USA.	1. Growth rate is rapid.
7.01		
7.02	1. USDA/ARS-GRIN [Online Database]. National Germplasm Resources Laboratory, Beltsville, Maryland. http://www.ars-grin.gov/cgi-bin/npgs/html/taxgenform.pl?language=en (02 July 2012).	Species is being considered for introduction as a biomass crop. 1. Environmental (boundary/barrier/support, erosion control), materials (essential oils), medicines (folklore).
7.03		
7.04		
7.05		
7.06		
7.07		
7.08		
8.01	1. USDA, NRCS. 2012. The PLANTS Database (http://plants.usda.gov , 2 July 2012). National Plant Data Team, Greensboro, NC 27401-4901 USA.	1. High fruit/seed abundance.
8.02	1. USDA, NRCS. 2012. The PLANTS Database (http://plants.usda.gov , 2 July 2012). National Plant Data Team, Greensboro, NC 27401-4901 USA.	1. Fruit/seed period begins and ends in the fall; no persistence of fruit/seed.
8.03		
8.04	1. USDA, NRCS. 2012. The PLANTS Database (http://plants.usda.gov , 2 July 2012). National Plant Data Team, Greensboro, NC 27401-4901 USA.	1. No coppice potential or resprout ability.
8.05		