

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>Schefflera actinophylla (umbrella tree)</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	n	0
3.04	Environmental weed	y	0
3.05	Congeneric weed	n	0
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		
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	y	1
4.08	Creates a fire hazard in natural ecosystems	n	0
4.09	Is a shade tolerant plant at some stage of its life cycle	y	1
4.1	Grows on infertile soils (oligotrophic, limerock, or excessively draining soils)	y	1
4.11	Climbing or smothering growth habit	n	0
4.12	Forms dense thickets	y	1
5.01	Aquatic	n	0

5.02	Grass	n	0
5.03	Nitrogen fixing woody plant	n	0
5.04	Geophyte		
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		
6.07	Minimum generative time (years)	3	0
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	n	-1
7.04	Propagules adapted to wind dispersal	n	-1
7.05	Propagules water dispersed	n	-1
7.06	Propagules bird dispersed	y	1
7.07	Propagules dispersed by other animals (externally)	n	-1
7.08	Propagules dispersed by other animals (internally)	y	1
8.01	Prolific seed production	y	1
8.02	Evidence that a persistent propagule bank is formed (>1 yr)		
8.03	Well controlled by herbicides	y	-1
8.04	Tolerates, or benefits from, mutilation or cultivation	y	1
8.05	Effective natural enemies present in Florida, or east of the continental divide		
Total Score			14

Outcome	Reject*
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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	7	yes
B	10	yes
C	16	yes
total	33	yes

Data collected 2006-2007

Question number	Reference	Source data
1.01		used horticulturally, but no evidence of selection for reduced weediness
1.02		
1.03		
2.01	1. Dehgan, B. (1998) Landscape Plants for Subtropical Climates. University Press of Florida. 2. Hortocopia 4.0 3. Langeland and Burks, eds. (1998) Identification and Biology of Nonnative Plants in Florida's Natural Areas. University of Florida.	1. hardiness zones 9b-11 2. hardy range 10A to 11 3. "Restricted outdoors to warmer areas with minimum temperatures above 1.7°C (35°F)."
2.02		
2.03		
2.04	Walters (1998) The Queensland umbrella tree (a look at <i>Schefflera</i> down under). Wildland Weeds 1: 4-5.	"inhabiting lowland swamps"
2.05	Wagner, Herbst, and Sohmer (1999) Manual of the flowering plants of Hawai'i. University of Hawai'i Press/Bishop Museum Press, Honolulu.	"Native to Australia and New Guinea, widely cultivated outdoors as an ornamental in other tropical areas and indoors in many temperate regions"
3.01	1. Wagner, Herbst, and Sohmer (1999) Manual of the flowering plants of Hawai'i. University of Hawai'i Press/Bishop Museum Press, Honolulu. 2. Whistler (2000) Tropical Ornamentals: a Guide. Timber Press, Portland.	1. "in Hawaii naturalized in relatively low elevation, mesic, disturbed areas" 2. "the tree can become naturalized in forests, as it has in Fiji and Hawaii"
3.02	Whistler (2000) Tropical Ornamentals: a Guide. Timber Press, Portland.	"the tree can become naturalized in forests, as it has in Fiji and Hawaii, for example, and as a weed of disturbed areas"
3.03		no evidence
3.04	1. Weber (2003) Invasive Plant Species of the World. CABI Publishing. 2. PIER, Institute of Pacific Islands Forestry (http://www.hear.org/pier/species/schefflera_actinophylla.htm). 3. Kairo, Ali, Cheesman, Haysom, and Murphy (2003) Invasive Species Threats in the Caribbean Region. Report to the Nature Conservancy.	1. Considered an environmental weed in Hawaii. 2. "It is a shade tolerant plant capable of invading undisturbed forests." 3. Considered naturalized and invasive in the Bahamas.
3.05		no evidence

4.01	Wagner, Herbst, and Sohmer (1999) Manual of the flowering plants of Hawai'i. University of Hawai'i Press/Bishop Museum Press, Honolulu.	no description of these traits
4.02		no evidence
4.03	Wagner, Herbst, and Sohmer (1999) Manual of the flowering plants of Hawai'i. University of Hawai'i Press/Bishop Museum Press, Honolulu.	no description of this
4.04		
4.05	Bruneton (1999) Toxic Plants: Dangerous to Humans and Animals. Lavoisier Publishing, Paris.	"The accidental ingestion of these <i>Schefflera</i> is essentially without consequence: out of 129 cases, including 14 in animals, only 1 had symptoms."
4.06		
4.07	Bruneton (1999) Toxic Plants: Dangerous to Humans and Animals. Lavoisier Publishing, Paris.	Contact with <i>Schefflera</i> causes a skin reaction, due to the irritating polyalkyne falcarinol. Ingestion of <i>Schefflera</i> does not appear to cause problems.
4.08		no evidence
4.09	1. Dehgan, B. (1998) Landscape Plants for Subtropical Climates. University Press of Florida. 2. Whistler (2000) Tropical Ornamentals: a Guide. Timber Press, Portland. 3. PIER, Institute of Pacific Islands Forestry (http://www.hear.org/pier/species/schefflera_actinophylla.htm).	1. full sun to partial shade 2. "sunny to shaded places are preferred" 3. "It is a shade tolerant plant"
4.1	1. Dehgan, B. (1998) Landscape Plants for Subtropical Climates. University Press of Florida. 2. Walters (1998) The Queensland umbrella tree (a look at <i>Schefflera</i> down under). Wildland Weeds 1: 4-5.	1. varied soils 2. "The species is tolerant of a range of soil types"
4.11	Wagner, Herbst, and Sohmer (1999) Manual of the flowering plants of Hawai'i. University of Hawai'i Press/Bishop Museum Press, Honolulu.	trees, occasionally epiphytic
4.12	Weber (2003) Invasive Plant Species of the World. CABI Publishing.	"Once established, the tree forms dense and shady thickets, outcompeting native plant species."
5.01		terrestrial
5.02	USDA, NRCS. 2005. The PLANTS Database, Version 3.5 (http://plants.usda.gov). Data compiled from various sources by Mark W. Skinner. National Plant Data Center, Baton Rouge, LA 70874-4490 USA.	Araliaceae
5.03	USDA, NRCS. 2005. The PLANTS Database, Version 3.5 (http://plants.usda.gov). Data compiled from various sources by Mark W. Skinner. National Plant Data Center, Baton Rouge, LA 70874-4490 USA.	Araliaceae
5.04		
6.01		
6.02	1. Weber (2003) Invasive Plant Species of the World. CABI Publishing. 2. Dehgan, B. (1998) Landscape Plants for Subtropical Climates. University Press of Florida.	1. "seeds germinate readily" 2. propagation by seeds

6.03		
6.04		
6.05	National Tropical Botanical Garden (http://www.ntbg.org/plants/plantresource_new3.php?id=250&focus=9).	"Birds and insects such as bees and flies are the pollinators of Umbrella tree."
6.06		
6.07	1. Dehgan, B. (1998) Landscape Plants for Subtropical Climates. University Press of Florida. 2. Hortocopia 4.0 3. Walters (1998) The Queensland umbrella tree (a look at <i>Schefflera</i> down under). Wildland Weeds 1: 4-5.	1. rapid growth rate 2. fast growth rate 3. "a very rapid-growing tree"
7.01		
7.02	Wagner, Herbst, and Sohmer (1999) Manual of the flowering plants of Hawai'i. University of Hawai'i Press/Bishop Museum Press, Honolulu.	"widely cultivated outdoors as an ornamental in other tropical areas and indoors in many temperate regions"
7.03		no evidence
7.04	Weber (2003) Invasive Plant Species of the World. CABI Publishing.	fruit is a 6-8 mm drupe
7.05		no evidence
7.06	1. Weber (2003) Invasive Plant Species of the World. CABI Publishing. 2. Whistler (2000) Tropical Ornamentals: a Guide. Timber Press, Portland. 3. Walters (1998) The Queensland umbrella tree (a look at <i>Schefflera</i> down under). Wildland Weeds 1: 4-5.	1. "fruits are attractive to birds which disperse seeds to new sites" 2. "seeds are readily dispersed by birds" 3. "Seeds are spread in bird droppings and germinate readily under suitable conditions."
7.07	Weber (2003) Invasive Plant Species of the World. CABI Publishing.	fruit is a 6-8 mm drupe - no evidence of any means of attachment
7.08		fleshy fruit
8.01	1. Weber (2003) Invasive Plant Species of the World. CABI Publishing. 2. Langeland and Burks, eds. (1998) Identification and Biology of Nonnative Plants in Florida's Natural Areas. University of Florida.	1. each fruit head contains 10-12 seeds 2. "produces huge numbers of seeds...prolifically producing seeds"
8.02		
8.03	1. Weber (2003) Invasive Plant Species of the World. CABI Publishing. 2. NSW North Coast Weeds Advisory Committee, Umbrella tree trials (http://www.northcoastweeds.org.au/site-files/docs/forum04/umbrella-sparkes.pdf).	1. "Older trees can be treated with triclopyr mixed with an oil diluent and applied to the base of the tree. If trees are cut, the stumps should be treated with triclopyr." 2. "Imazapyr injected by the sidewinder stem injection system was highly effective on very large trees. Glyphosate and metsulfuronmethyl were also effective using the sidewinder stem injection technique."
8.04	Walters (1998) The Queensland umbrella tree (a look at <i>Schefflera</i> down under). Wildland Weeds 1: 4-5.	"Plants tolerate heavy pruning and regenerate quickly after being cut back to almost ground level."
8.05		