

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>Allamanda cathartica</i> (yellow allamanda)			
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	y	1
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	n	0
4.1	Grows on infertile soils (oligotrophic, limerock, or excessively draining soils)	y	1
4.11	Climbing or smothering growth habit	y	1
4.12	Forms dense thickets	n	0
5.01	Aquatic	n	0
5.02	Grass	n	0
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		
6.07	Minimum generative time (years)	1	1
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	y	1
7.05	Propagules water dispersed	n	-1
7.06	Propagules bird dispersed	n	-1
7.07	Propagules dispersed by other animals (externally)	?	
7.08	Propagules dispersed by other animals (internally)	n	-1
8.01	Prolific seed production	n	-1
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 Florida, or east of the continental divide		
Total Score			12

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	14	yes
total	31	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		
2.02		
2.03		
2.04	van Valkenburg and Bunyapraphatsara, eds. (2001) Plant Resources of South-East Asia. No. 12(2). Medicinal and poisonous plants. Backhuys Publishers, Leiden.	"In its native area, <i>A. cathartica</i> is found in mangrove swamp and on river banks."
2.05	Whistler (2000) Tropical Ornamentals: a Guide. Timber Press, Portland.	"...widely cultivated for its large yellow flowers and is one of the most popular and attractive tropical ornamental shrubs"
3.01	1. Smith (1988) Flora Vitiensis Nova: A New Flora of Fiji. Vol. 4. Pacific Tropical Botanical Garden. 2. Space, Waterhouse, Miles, Tiobech, and Rengulbai (2003) Report to the Republic of Palau on Invasive Plant Species of Environmental Concern. USDA Forest Service, Institute of Pacific Islands Forestry, Honolulu.	1. occasionally naturalized in Fiji 2. naturalized in Palau
3.02	Csurhes and Edwards (1998) Potential Environmental Weeds in Australia. Queensland Department of Natural Resources.	"Humphries and Stanton (1992) listed <i>A. cathartica</i> as a weed of roadsides in the 'wet tropics' region of north Queensland"
3.03		no evidence
3.04	1. Space, Waterhouse, Miles, Tiobech, and Rengulbai (2003) Report to the Republic of Palau on Invasive Plant Species of Environmental Concern. USDA Forest Service, Institute of Pacific Islands Forestry, Honolulu. 2. Csurhes and Edwards (1998) Potential Environmental Weeds in Australia. Queensland Department of Natural Resources.	1. considered a major invasive species on Palau (see Table D); "it has invaded forest and savanna in central Babeldaob [island in Palau]". 2. "Stanton (pers. comm.) reports that <i>A. cathartica</i> has become quite invasive in several National Parks of far north Queensland."
3.05		no evidence
4.01	Whistler (2000) Tropical Ornamentals: a Guide. Timber Press, Portland.	fruits are spiny, but the spines are soft, and it infrequently sets fruit in cultivation
4.02		no evidence
4.03	Dehgan, B. (1998) Landscape Plants for Subtropical Climates. University Press of Florida.	no description of this
4.04		
4.05	Tokarnia, Armien, Peixoto, Barbosa, Brito, and Dobereiner (1996) Experiments on the toxicity of some ornamental plants in cattle. Pesquisa Veterinaria Brasileira 16: 5-20.	<i>A. cathartica</i> caused lethal poisoning in cattle, mainly through colic.
4.06		
4.07	1. Hortocopia 4.0 2. Dehgan, B. (1998) Landscape Plants for Subtropical Climates. University Press of	1. "All or parts of this plant are poisonous." 2. "caustic, milky

	Florida.	sap"
4.08		no evidence
4.09	1. Hortiocopia 4.0 2. Dehgan, B. (1998) Landscape Plants for Subtropical Climates. University Press of Florida.	1. exposure: full sun 2. "Full sun is required for best flowering"
4.1	Hortiocopia 4.0	"Yellow Allamanda is tolerant of various soil types"
4.11	Dehgan, B. (1998) Landscape Plants for Subtropical Climates. University Press of Florida.	clambering vine
4.12		no evidence
5.01		terrestrial
5.02	Dehgan, B. (1998) Landscape Plants for Subtropical Climates. University Press of Florida.	Apocynaceae
5.03	Dehgan, B. (1998) Landscape Plants for Subtropical Climates. University Press of Florida.	Apocynaceae
5.04	Hortiocopia 4.0	"This plant's roots are fibrous."
6.01		
6.02	Tropilab, Inc. (http://www.tropilab.com/allamanda.html)	propagation: seeds and cuttings
6.03		
6.04		
6.05	Liede and Ollerton. Floral biology and pollination in tropical and subtropical ecosystems, APOPOL database (http://www.uni-bayreuth.de/departments/planta2/research_wgl/pollina/APO_POL_d.html).	Records of pollination of <i>A. cathartica</i> by sunbirds and insects; most members of this family are pollinated by butterflies, bees, and wasps [includes, but not limited to, specialist pollinator]
6.06		
6.07	Hortiocopia 4.0	"it could be grown as an annual in colder climates due to its rapid growth rate"
7.01		
7.02	Whistler (2000) Tropical Ornamentals: a Guide. Timber Press, Portland.	"...widely cultivated for its large yellow flowers and is one of the most popular and attractive tropical ornamental shrubs"
7.03		no evidence
7.04	Nath (1978) Rare fruiting in <i>Allamanda cathartica</i> L. var. <i>grandiflora</i> (<i>A. grandiflora</i> Hook.). Current Science 47: 166-167.	seeds are flat and winged
7.05		no evidence
7.06		wind dispersed
7.07	1. Whistler (2000) Tropical Ornamentals: a Guide. Timber Press, Portland. 2. Dehgan, B. (1998) Landscape Plants for Subtropical Climates. University Press of Florida.	1. "fruit a subglobose capsule covered with soft spines" 2. fruit a dehiscent follicle with 0.25 inch spines
7.08		wind dispersed
8.01	Whistler (2000) Tropical Ornamentals: a Guide. Timber Press, Portland.	fruit is infrequently formed in cultivation
8.02		
8.03		
8.04		
8.05		