

Allamanda cathartica (Brownbud allamanda, Golden trumpet, Yellow allamanda)		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 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	y	2
3.03	Weed of agriculture	n	0
3.04	Environmental weed	y	4
3.05	Congeneric weed	n	0
4.01	Produces spines, thorns or burrs	n	0
4.02	Allelopathic		
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
4.10	Grows on infertile soils (oligotrophic, limerock, or excessively draining soils). North & Central Zones: infertile soils; South Zone: shallow limerock or Histisols.	?	
4.11	Climbing or smothering growth habit	y	1
4.12	Forms dense thickets	?	
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	n	0
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 propagation		
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		
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			16
Implemented Pacific Second Screening			n/a
Risk Assessment Results			High

section	# questions answered	satisfy minimum?
A		11 yes
B		7 yes
C		11 yes
total		29 yes

	Reference	Source data
1.01		used horticulturally, but no evidence of selection for reduced weediness
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%20lgnnd.tif). 2. Dehgan, B. (1998) Landscape Plants for Subtropical Climates. University Press of Florida. 3. Hortocopia 4.0. 4. 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?312549). 5. van Valkenburg and Bunyaphatsara, eds. (2001) Plant Resources of South-East Asia. No. 12(2). Medicinal and poisonous plants. Backhuys Publishers, Leiden.	1. Global hardiness zones 10-13. 2. "Hardiness Zone - Zones 9b to 11."; "Native Habitat - Northern South America". 3. "Hardy range - 9B to 11"; "Native habitat - South America". 4. Northern South America: French Guiana; Guyana; Suriname; Brazil: Brazil [probably native]; widely cultivated in tropics. 5. "Distribution - Native to tropical America and the Caribbean. A. cathartica is now cultivated throughout the tropics." [Suited to all three of Florida's zones].
2.02		
2.03	1. Köppen-Geiger climate map (http://www.hydrol-earth-syst-sci.net/11/1633/2007/hess-11-1633-2007.pdf). 2. Dehgan, B. (1998) Landscape Plants for Subtropical Climates. University Press of Florida. 3. Hortocopia 4.0. 4. 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?312549). 5. van Valkenburg and Bunyaphatsara, eds. (2001) Plant Resources of South-East Asia. No. 12(2). Medicinal and poisonous plants. Backhuys Publishers, Leiden.	1. Distribution in the native and cultivated ranges is very widespread, so there are most likely at least 3 climatic groups. 2. "Native Habitat - Northern South America". 3. "Native habitat - South America". 4. Northern South America: French Guiana; Guyana; Suriname; Brazil: Brazil [probably native]; widely cultivated in tropics. 5. "Distribution - Native to tropical America and the Caribbean. A. cathartica is now cultivated throughout the tropics."
2.04	1. Atlapedia Online (http://www.atlapedia.com/online/countries/frenguin.htm). 2. Altapedia Online (http://www.atlapedia.com/online/countries/guyana.htm). 3. Altapedia Online (http://www.atlapedia.com/online/countries/suriname.htm). 4. Atlapedia Online (http://www.atlapedia.com/online/countries/brazil.htm). 5. van Valkenburg and Bunyaphatsara, eds. (2001) Plant Resources of South-East Asia. No. 12(2). Medicinal and poisonous plants. Backhuys Publishers, Leiden.	1. For French Guiana: average annual precipitation is more than 2,500 mm (100 inches). 2. For Guyana: average annual precipitation in Georgetown is 2,280 mm (90 inches) with less rainfall occurring on the higher plateau. 3. Average annual precipitation in Paramaribo is 2,200 mm (87 inches). 4. For Brazil: "the nationwide average annual precipitation varies between 1,010 mm (40 inches) and 2,030 mm (80 inches)." 5. "In its native area, A. cathartica 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 A. cathartica 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		
4.03	Dehgan, B. (1998) Landscape Plants for Subtropical Climates. University Press of Florida.	no description of parasitism
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. Horticultura 4.0 2. Dehgan, B. (1998) Landscape Plants for Subtropical Climates. University Press of Florida.	1. "All or parts of this plant are poisonous." 2. "Caustic, milky sap".
4.08		no evidence
4.09	1. Horticultura 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".
4.10	1. USDA, National Resources Conservation Services (NRCS), Soil Survey Division, World Soil Resources (http://soils.usda.gov/use/worldsoils/mapindex/order.html). 2. Horticultura 4.0	1. Histisols do not occur in the native habitat of this species and it is uncertain whether they occur in the cultivated distribution range. 2. "Yellow <i>Allamanda</i> 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	Horticultura 4.0	"This plant's roots are fibrous."
6.01		no evidence
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	Horticultura 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		
7.06		

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		
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		No evidence found.