

**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>Syzygium cumini (Java plum)</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	n	0
3.03	Weed of agriculture	n	0
3.04	Environmental weed	y	0
3.05	Congeneric weed	y	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	y	1
4.07	Causes allergies or is otherwise toxic to humans	n	0
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	n	0
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	n	-1
6.07	Minimum generative time (years)	8	-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	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		
8.02	Evidence that a persistent propagule bank is formed (>1 yr)	n	-1
8.03	Well controlled by herbicides	?	
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		
<b>Total Score</b>			<b>9</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	7	yes
B	11	yes
C	17	yes
total	35	yes

Data collected 2006-2007

Question number	Reference	Source data
1.01		cultivated, but no evidence of selection for reduced weediness
1.02		
1.03		
2.01		
2.02		
2.03		
2.04	Verheij and Coronel, eds. (1992) Plant Resources of South-East Asia. No. 2. Edible Fruits and Nuts. Prosea, Bogor, Indonesia.	"Jambolan grows on river banks and can withstand prolonged flooding."
2.05	1. Whistler (1995) Wayside Plants of the Islands. Isle Botanica, Honolulu. 2. Verheij and Coronel, eds. (1992) Plant Resources of South-East Asia. No. 2. Edible Fruits and Nuts. Prosea, Bogor, Indonesia.	1. "widely cultivated in the tropics" 2. "Jambolan seeds used to be traded for medicinal use"
3.01	Wagner, Herbst, and Sohmer (1999) Manual of the flowering plants of Hawai'i. University of Hawai'i Press/Bishop Museum Press, Honolulu.	"in Hawaii occasionally cultivated and now naturalized primarily in mesic valleys to disturbed mesic forest"
3.02		no evidence
3.03		no evidence
3.04	1. Weber (2003) Invasive Plant Species of the World. CABI Publishing. 2. Henderson (2001) Alien Weeds and Invasive Plants: a Complete Guide to Declared Weeds and Invaders in South Africa. Plant Protection Research Institute Handbook No. 12.	1. Considered an environmental weed in southern Africa and Hawaii; "This rapidly spreading tree forms dense canopies that shade out young native trees and prevent their regeneration." 2. A category 3 invader in South Africa; invades coastal bush.
3.05	Weber (2003) Invasive Plant Species of the World. CABI Publishing.	<i>S. jambos</i> considered an environmental weed in the Caribbean, the Galapagos, and Hawaii.
4.01	Morton (1987) Fruits of Warm Climates. Julia F. Morton, Miami.	no description of these traits
4.02	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.	not allelopathic

4.03	Morton (1987) Fruits of Warm Climates. Julia F. Morton, Miami.	no description of this
4.04		
4.05	1. 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. 2. Henderson (2001) Alien Weeds and Invasive Plants: a Complete Guide to Declared Weeds and Invaders in South Africa. Plant Protection Research Institute Handbook No. 12. 3. Morton (1987) Fruits of Warm Climates. Julia F. Morton, Miami.	1. not toxic 2. not indicated to be poisonous 3. "The leaves have served as fodder for livestock"
4.06	Morton (1987) Fruits of Warm Climates. Julia F. Morton, Miami.	"The fruits are attacked by fruit flies ( <i>Dacus diversus</i> in India)"
4.07	1. 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. 2. Henderson (2001) Alien Weeds and Invasive Plants: a Complete Guide to Declared Weeds and Invaders in South Africa. Plant Protection Research Institute Handbook No. 12.	1. not toxic 2. not indicated to be poisonous or an irritant
4.08		no evidence
4.09	Horticopia 4.0	exposure: full sun
4.1	Morton (1987) Fruits of Warm Climates. Julia F. Morton, Miami.	"Despite its ability to thrive in low, wet areas, the tree does well on higher, well-drained land whether it be in loam, marl, sand or oolitic limestone."
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: tree
4.12		no evidence
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.	Myrtaceae
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.	does not fix nitrogen (and is Myrtaceae)
5.04	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.	not propagated by bulbs, corms, or tubers
6.01		
6.02	USDA, NRCS. 2005. The PLANTS Database, Version 3.5 ( <a href="http://plants.usda.gov">http://plants.usda.gov</a> ). Data compiled	propagated by seed

	from various sources by Mark W. Skinner. National Plant Data Center, Baton Rouge, LA 70874-4490 USA.	
6.03		
6.04		
6.05	1. Morton (1987) Fruits of Warm Climates. Julia F. Morton, Miami. 2. Verheij and Coronel, eds. (1992) Plant Resources of South-East Asia. No. 2. Edible Fruits and Nuts. Prosea, Bogor, Indonesia.	1. "The jambolan tree is of real value in apiculture. The flowers have abundant nectar and are visited by bees ( <i>Apis dorsata</i> ) throughout the day..." 2. "Pollination is by bees and flies, but also by wind."
6.06	1. 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. 2. Morton (1987) Fruits of Warm Climates. Julia F. Morton, Miami. 3. Lorenzi, de Souza, Torres, and Bacher (2003) Arvores Exoticas no Brasil. Instituto Plantarum de Estudos da Flora Ltda., Sao Paulo, Brasil.	1. vegetative spread rate: none 2. The only methods of propagation described other than seeds are artificial cuttings/grafting. 3. Propagation exclusively by seeds.
6.07	Morton (1987) Fruits of Warm Climates. Julia F. Morton, Miami.	"begin bearing in 8 to 10 years"
7.01		
7.02	1. Whistler (1995) Wayside Plants of the Islands. Isle Botanica, Honolulu. 2. Verheij and Coronel, eds. (1992) Plant Resources of South-East Asia. No. 2. Edible Fruits and Nuts. Prosea, Bogor, Indonesia.	1. "widely cultivated in the tropics" 2. "In India the tree is grown to provide shade for coffee...Jambolan seeds used to be traded for medicinal use"
7.03		no evidence
7.04	Wagner, Herbst, and Sohmer (1999) Manual of the flowering plants of Hawai'i. University of Hawai'i Press/Bishop Museum Press, Honolulu.	fruit is an oblong berry, 1.2-3 cm long
7.05		no evidence
7.06	1. Weber (2003) Invasive Plant Species of the World. CABI Publishing. 2. Morton (1987) Fruits of Warm Climates. Julia F. Morton, Miami.	1. "Seeds are dispersed by birds and mammals." 2. dispersed by mynah birds in Hawaii
7.07	Wagner, Herbst, and Sohmer (1999) Manual of the flowering plants of Hawai'i. University of Hawai'i Press/Bishop Museum Press, Honolulu.	fruit is an oblong berry, 1.2-3 cm long [no evidence of any means of attachment]
7.08	Weber (2003) Invasive Plant Species of the World. CABI Publishing.	"Seeds are dispersed by birds and mammals."
8.01	Wagner, Herbst, and Sohmer (1999) Manual of the flowering plants of Hawai'i. University of Hawai'i Press/Bishop Museum Press, Honolulu.	usually 1 seed per fruit
8.02	Morton (1987) Fruits of Warm Climates. Julia F. Morton, Miami.	"Jambolan seeds lose viability quickly."
8.03		
8.04	Weber (2003) Invasive Plant Species of the World. CABI Publishing.	"The tree resprouts vigorously after damage."
8.05		