

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>Melochia corchorifolia (redweed)</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	y	0
3.04	Environmental weed	n	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		
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	n	-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		
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)		
8.03	Well controlled by herbicides	y	-1
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			10

Outcome	Reject*
----------------	----------------

*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	14	yes
total	32	yes

Data collected 2006-2007

Question number	Reference	Source data
1.01		no evidence of cultivation
1.02		
1.03		
2.01		
2.02		
2.03		
2.04	Padua, Bunyaphatsara, and Lemmens, eds. (1999) Plant Resources of South-East Asia. No. 12. Medicinal and poisonous plants 1. Backhuys Publishers, Leiden.	"Although it is adapted to xerophytic conditions, <i>M. corchorifolia</i> has retained its ability to grow in mesophytic and hydrophytic habitats." It is a weed of rice in the Philippines, Thailand, and Indonesia.
2.05	1. Padua, Bunyaphatsara, and Lemmens, eds. (1999) Plant Resources of South-East Asia. No. 12. Medicinal and poisonous plants 1. Backhuys Publishers, Leiden. 2. Smith (1981) Flora Vitiensis Nova: A New Flora of Fiji. Vol. 2. Pacific Tropical Botanical Garden.	1. "It originates from the Old World tropics and has been introduced in the Americas." 2. Introduced into Fiji.
3.01	Smith (1981) Flora Vitiensis Nova: A New Flora of Fiji. Vol. 2. Pacific Tropical Botanical Garden.	"Widespread in the Old World tropics and subtropics, now pantropical." Naturalized in Fiji.
3.02	1. Goldberg (1967) The genus <i>Melochia</i> L. (Sterculiaceae). Contributions from the United States National Herbarium 34(5): 191-363. 2. PIER, Institute of Pacific Islands Forestry (http://www.hear.org/pier/species/melochia_c_orchorifolia.htm).	1. "It occurs as a weed...in waste ground" 2. a weed of roadsides in New Guinea
3.03	1. Holm (1979) A Geographical Atlas of World Weeds. John Wiley and Sons. 2. Padua, Bunyaphatsara, and Lemmens, eds. (1999) Plant Resources of South-East Asia. No. 12. Medicinal and poisonous plants 1. Backhuys Publishers, Leiden.	1. Considered a serious weed of agriculture in Fiji and Thailand, and a principal weed in Malaysia. 2. "In the Philippines, it is reported as one of the dominant weeds in upland rice...In Thailand and Indonesia it is also a weed in lowland rice, moreover it is also recorded as such in soya bean."
3.04		no evidence
3.05	Holm (1979) A Geographical Atlas of World	<i>M. pyramidata</i> considered a common

	Weeds. John Wiley and Sons.	weed of agriculture in Colombia, Puerto Rico, and El Salvador.
4.01	Padua, Bunyaphatsara, and Lemmens, eds. (1999) Plant Resources of South-East Asia. No. 12. Medicinal and poisonous plants 1. Backhuys Publishers, Leiden.	no description of these traits
4.02		no evidence
4.03	Padua, Bunyaphatsara, and Lemmens, eds. (1999) Plant Resources of South-East Asia. No. 12. Medicinal and poisonous plants 1. Backhuys Publishers, Leiden.	no description of this
4.04		
4.05		no evidence
4.06	1. Black, Padgett, Russin, Griffin, Snow, and Berggren (1996) Potential weed hosts for <i>Diaporthe phaseolorum</i> var. <i>caulivora</i> , causal agent for soybean stem canker. Plant Disease 80: 763-765. 2. Black, Griffin, Russin, and Snow (1998) Weed hosts for <i>Rhizoctonia</i> foliar blight in soybeans. Louisiana Agriculture 41: 17-18.	1. <i>M. corchorifolia</i> was found to be a host for <i>D. p.</i> var. <i>caulivora</i> . 2. <i>M. corchorifolia</i> was identified as a host for <i>Rhizoctonia solani</i> , and was capable of spreading <i>R. solani</i> to nearby non-infected soybean.
4.07	Padua, Bunyaphatsara, and Lemmens, eds. (1999) Plant Resources of South-East Asia. No. 12. Medicinal and poisonous plants 1. Backhuys Publishers, Leiden.	"The leaves of <i>M. corchorifolia</i> are sometimes eaten in Indo-China and India." [and no evidence of toxicity]
4.08		no evidence
4.09	Padua, Bunyaphatsara, and Lemmens, eds. (1999) Plant Resources of South-East Asia. No. 12. Medicinal and poisonous plants 1. Backhuys Publishers, Leiden.	"in sunny or slightly shaded...localities, at watersides and in fields, waste places and open forest" [all open habitats]
4.1	Goldberg (1967) The genus <i>Melochia</i> L. (Sterculiaceae). Contributions from the United States National Herbarium 34(5): 191-363.	occurs in wet or dry sandy or clay soil
4.11	Padua, Bunyaphatsara, and Lemmens, eds. (1999) Plant Resources of South-East Asia. No. 12. Medicinal and poisonous plants 1. Backhuys Publishers, Leiden.	herb or subshrub
4.12		no evidence
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.	Sterculiaceae
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.	Sterculiaceae
5.04	Goldberg (1967) The genus <i>Melochia</i> L. (Sterculiaceae). Contributions from the United States National Herbarium 34(5): 191-363.	taprooted
6.01		

6.02	Padua, Bunyapraphatsara, and Lemmens, eds. (1999) Plant Resources of South-East Asia. No. 12. Medicinal and poisonous plants 1. Backhuys Publishers, Leiden.	"Seed buried to a depth of 1-5 cm gave a germination rate of 80-90% after 7 days"
6.03		
6.04		
6.05	Padua, Bunyapraphatsara, and Lemmens, eds. (1999) Plant Resources of South-East Asia. No. 12. Medicinal and poisonous plants 1. Backhuys Publishers, Leiden.	"The flowers are probably pollinated by small insects."
6.06		
6.07	Goldberg (1967) The genus <i>Melochia</i> L. (Sterculiaceae). Contributions from the United States National Herbarium 34(5): 191-363.	"An annual herb or perennial subshrub"
7.01		
7.02		no evidence
7.03		no evidence
7.04	Padua, Bunyapraphatsara, and Lemmens, eds. (1999) Plant Resources of South-East Asia. No. 12. Medicinal and poisonous plants 1. Backhuys Publishers, Leiden.	"Fruit a small globose capsule, 3.5-5 mm in diameter...Seeds small, wingless"
7.05		no evidence
7.06		
7.07	Padua, Bunyapraphatsara, and Lemmens, eds. (1999) Plant Resources of South-East Asia. No. 12. Medicinal and poisonous plants 1. Backhuys Publishers, Leiden.	"Fruit a small globose capsule, 3.5-5 mm in diameter" [no evidence of any means of attachment]
7.08	Middleton and Mason (1992) Seed herbivory by nilgai, feral cattle, and wild boar in the Keoladeo National Park, India. Biotropica 24: 538-543.	Viable seeds of <i>M. corchorifolia</i> were found in nilgai and wild boar dung in India.
8.01	Padua, Bunyapraphatsara, and Lemmens, eds. (1999) Plant Resources of South-East Asia. No. 12. Medicinal and poisonous plants 1. Backhuys Publishers, Leiden.	ovary 5-celled, each cell with 1-2 ovules
8.02		
8.03	Webb and Feez (1987) Control of broadleaf weeds with fluroxypyr in sugarcane and grain sorghum in Northern New South Wales and Queensland, Australia. Proceedings of the 11th Asian Pacific Weed Science Society Conference 1987: 211-217.	"In trials in sugarcane and sorghum in New South Wales and Queensland during 1982-86, fluroxypyr (Starane) at 150-300 g/ha gave excellent and selective control" of several weeds including <i>M. corchorifolia</i> .
8.04		
8.05		