

Assessment of Non-native Plants in Florida's Natural Areas

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Assessment date 2016

	Mimosa invisa ALL ZONES	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) North Zone: suited to Zones 8, 9 Central Zone: suited to Zones 9, 10 South Zone: suited to Zone 10	2	
2.02	Quality of climate match data (0-low; 1-intermediate; 2-high)	2	
2.03	Broad climate suitability (environmental versatility)	у	1
2.04	Native or naturalized in habitats with periodic inundation North Zone: mean annual precipitation 50-70 inches Central Zone: mean annual precipitation 40-60 inches South Zone: mean annual precipitation 40-60 inches	У	1
2.05	Does the species have a history of repeated introductions outside its natural range?	V	
3.01	Naturalized beyond native range	y	2
3.02	Garden/amenity/disturbance weed	у	2
3.03	Weed of agriculture	у	4
3.04	Environmental weed	у	4
3.05	Congeneric weed	у	2
4.01	Produces spines, thorns or burrs	у	1
4.02	Allelopathic	unk	0
4.03	Parasitic	n	0
4.04	Unpalatable to grazing animals	у	1
4.05	Toxic to animals	у	1
4.06	Host for recognised pests and pathogens	n	0
4.07	Causes allergies or is otherwise toxic to humans	n	0
4.08	Creates a fire hazard in natural ecosystems	у	1
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	unk	
	& Central Zones: infertile soils; South Zone: shallow limerock or Histisols.		0
4.11	Climbing or smothering growth habit	у	1
4.12	Forms dense thickets	У	1
5.01	Aquatic	n	0
5.02	Grass	n	0
5.03	Nitrogen fixing woody plant	У	1
5.04	Geophyte	n	0

6.01	Evidence of substantial reproductive failure in native habitat	n	0
6.02	Produces viable seed	у	1
6.03	Hybridizes naturally	unk	-1
6.04	Self-compatible or apomictic	n	-1
6.05	Requires specialist pollinators	n	0
6.06	Reproduction by vegetative propagation	n	-1
6.07	Minimum generative time (years)	1	1
7.01	Propagules likely to be dispersed unintentionally (plants growing in heavily trafficked	у	
	areas)		1
7.02	Propagules dispersed intentionally by people	у	1
7.03	Propagules likely to disperse as a produce contaminant	у	1
7.04	Propagules adapted to wind dispersal	n	-1
7.05	Propagules water dispersed	у	1
7.06	Propagules bird dispersed	unk	-1
7.07	Propagules dispersed by other animals (externally)	у	1
7.08	Propagules dispersed by other animals (internally)	unk	-1
8.01	Prolific seed production	у	1
8.02	Evidence that a persistent propagule bank is formed (>1 yr)	у	1
8.03	Well controlled by herbicides	у	-1
8.04	Tolerates, or benefits from, mutilation or cultivation	у	1
8.05	Effective natural enemies present in U.S.	у	-1
	Total Score	2	5
	Implemented Pacific Second Screening	No	
	Risk Assessment Results	Hi	gh

section		satisfy
	# questions answered	minimum?
A		11 yes
В		10 yes
С		21 yes
total		42 yes

	Reference	Source data
1.01		Cultuvated, but no evidence of selection for reduced weediness.
1.02		Skip to question 2.01.
1.03		Skip to question 2.01.
2.01	1. PERAL NAPPFAST Global Plant Hardiness. http://www.nappfast.org/Plant_hardiness/2012/PHZ%20update 201230%20yr%20%20300dpi.tif (Accessed: 28 July 2015) 2. 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?313380 (Accessed: 28 July 2015)	No computer analysis was performed. 1. Florida North Zone: Hardiness zones 8 and 9. Central Zone: Hardiness zones 9 and 10. South Zone: Hardiness zone 10. Mimosa invisa present in the following global plant hardiness zones: 8, 9, 10, 11, 12, 13. 2. Native to Mexico, Cuba, Haiti, Jamaica, Puerto Rico, Costa Rica, El Salvador, Guatemala, Honduras, Panama, French Guiana, Guyana, Venezuela, Brazil, Bolivia, Colombia, Ecuador, Peru, and Paraguay. Naturalized within Mauritius, Mayotte, Reunion, British Indian Ocean Terr, Indonesia, Malaysia, Papua New Guinea, Australia, Guam, Micronesia, Northern Mariana Islands, Palau, Cook Islands, French Polynesia, American Samoa, Fiji, New Caledonia, Niue, Samoa, Solomon Islands, Vanuatu, and Wallis and Futuna Islands.
2.02		
2.03	 The University of Melbourne. Koppen-Geiger Climate Map of the Wolrd. http://people.eng.unimelb.edu.au/mpeel/koppen.html (Accessed: 28 July 2015)2. 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?313380 (Accessed: 28 July 2015) 	1. Grows in the following Koppen-Geiger Climate Zones: Af, Am, Aw, BWh, BWk, BSh, BSk, Csa, Csb, Cwb, Cfa, Cfb. 2. Native to Mexico, Cuba, Haiti, Jamaica, Puerto Rico, Costa Rica, El Salvador, Guatemala, Honduras, Panama, French Guiana, Guyana, Venezuela, Brazil, Bolivia, Colombia, Ecuador, Peru, and Paraguay. Naturalized within Mauritius, Mayotte, Reunion, British Indian Ocean Terr, Indonesia, Malaysia, Papua New Guinea, Australia, Guam, Micronesia, Northern Mariana Islands, Palau, Cook Islands, French Polynesia, American Samoa, Fiji, New Caledonia, Niue, Samoa, Solomon Islands, Vanuatu, and Wallis and Futuna Islands.
2.04	1. Climate Charts. World Climate Maps. http://www.climate- charts.com/World-Climate-Maps.html#rain (Accessed: 28 July 2015) 2. 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?313380 (Accessed: 28 July 2015)	1. Grows in areas with rainfall in this range. 2. Native to Mexico, Cuba, Haiti, Jamaica, Puerto Rico, Costa Rica, El Salvador, Guatemala, Honduras, Panama, French Guiana, Guyana, Venezuela, Brazil, Bolivia, Colombia, Ecuador, Peru, and Paraguay. Naturalized within Mauritius, Mayotte, Reunion, British Indian Ocean Terr, Indonesia, Malaysia, Papua New Guinea, Australia, Guam, Micronesia, Northern Mariana Islands, Palau, Cook Islands, French Polynesia, American Samoa, Fiji, New Caledonia, Niue, Samoa, Solomon Islands, Vanuatu, and Wallis and Futuna Islands.
2.05	1. Pacific Island Ecosysyems at Risk. http://www.hear.org/pier/species/mimosa_diplotricha.htm (Accessed: 28 July 2015). 2. 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?313380 (Accessed: 28 July 2015)	 Introduced to American Samoas, Nothern Mariana Islands, Cook Islands, Micronesia, Fiji, French Polynesia, Guam, New Caledonia, Niuem, Palau, Papua New Guinea, Phillipines, Samoa, Solomon Islands, New Hebrides Islands, Wallis and Futuna, Australia, Cambodia, China, Indonesia, Malaysia, Singapore, Taiwan, Thailand, and Vietnam. 2. Naturalized within Mauritius, Mayotte, Reunion, British Indian Ocean Terr, Indonesia, Malaysia, Papua New Guinea, Australia, Guam, Micronesia, Northern Mariana Islands, Palau, Cook Islands, French Polynesia, American Samoa, Fiji, New Caledonia, Niue, Samoa, Solomon Islands, Vanuatu, and Wallis and Futuna Islands.
3.01	1. 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?313380 (Accessed: 28 July 2015)	1. Naturalized within Mauritius, Mayotte, Reunion, British Indian Ocean Terr, Indonesia, Malaysia, Papua New Guinea, Australia, Guam, Micronesia, Northern Mariana Islands, Palau, Cook Islands, French Polynesia, American Samoa, Fiji, New Caledonia, Niue, Samoa, Solomon Islands, Vanuatu, and Wallis and Futuna Islands.

3.02	1. Pacific Island Ecosysyems at Risk.	1. "A major weed in pastures, plantations and roadsides" 2. "It grows
	http://www.hear.org/pier/species/mimosa_diplotricha.htm (Accessed: 28	best in tropical regions in habitats such as wastelands, pastures,
	July 2015) 2. 2. Asia- Pacific Forest Invasive Spcies Network.	disturbed forests, plantations, agricultural systems and along roadsides
	http://www.fao.org/forestry/13377-	and railway tracks at an altitude of 0 - 2,000 m above sea level" 3. "M.
	09/7cb34/914/5aa6a/a360640f09/78.pdf (Accessed: 28 July 2015) 3.	diplotricha commonly grows in crops, plantations and pastures, as well
	CABI. http://www.cabi.org/isc/datasheet/34196 (Accessed, 26 July 2015)	watercourses in tropical and subtropical regions"
3.03	1. Queensland Government. https://www.dat.qld.gov.au/plants/weeds-	1. "Chokes out cane, other crops and grassland, causing loss of crops
	weeds/giant-sensitive-plant (Accessed: 24 July 2015) 2. CABI.	invade highly disturbed sites, but agricultural systems in particular."
	http://www.cabi.org/isc/datasheet/34196 (Accessed: 28 July 2015) 3.	"Negatively impacts agriculture" 3. Classified as an agricultural weed.
	Global Compendium of Weeds.	
	http://www.hear.org/gcw/species/mimosa_diplotricha/ (Accessed: 28 July	
	2015)	
3.04	1. Pacific Island Ecosysyems at Risk.	1. "Forms a dense ground cover and thickets, preventing reproduction of
	nttp://www.near.org/pier/species/mimosa_dipiotricna.ntm (Accessed: 24	other species." 2. Classified as an environmental weed.
	http://www.hear.org/gcw/species/mimosa_diplotricha/ (Accessed: 28_luly	
	2015)	
3.05	1. Global Compendium of Weeds.	1. Many plants within the same genus are listed as weeds, including
	http://www.hear.org/gcw/scientificnames/scinamem.htm (Accessed: 30	noxious weed classification. 2. Many plants within the same genus are
	July 2015) 2. A Geographical Atlas of World Weeds. Holm, Pancho,	listed as weeds, including serious weed classification.
	Herberger, and Plucknett. Kreiger Publishing Company. 1991.	
	(Accessed: 30 July 2015)	1. "This plant has long acuses sided stone that accomble as slimb on
4.01	1. IOCN. https://cmsdata.iucn.org/downloads/mimosa_diplotricha_leaflet2_pdf	other plants and have many small spines along their length both the
	(Accessed: 27. July 2015) 2 CABI	leaf stems and the pods also have small spines "2" covered with
	http://www.cabi.org/isc/datasheet/34196 (Accessed: 28 July 2015)	abundant sharp, recurved, vellowish spines"
4.02		No evidence
4 02		No evidence
4.05		
4.03	1. Toxicol Int. http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3052593/	1&2. Toxic to livestock
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4.03	1. Toxicol Int. http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3052593/ (Accessed: 25 July 2015) 2. CABI. http://www.cabi.org/isc/datasheet/34196 (Accessed: 24 July 2015) 1. Toxicol Int. http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3052593/ (Accessed: 25 July 2015) 2. CABI. http://www.cabi.org/isc/datasheet/34196 (Accessed: 24 July 2015)	1&2. Toxic to livestock "Mimosa invisa is a shrubby herbaceous plant, which is widespread in central and southern parts of Kerala. Toxicity due to consumption of this plant is very common in Kerala during rainy season." 2. "There is evidence that M. diplotricha is toxic to stock (Waterhouse and Norris, 1987; Gibson and Waring, 1994), although Parsons and Cuthbertson (1992) report that a wether fed 60-90 g/day mixed with lucerne chaff did not suffer any adverse symptoms. In Thailand, 22 swamp buffaloes died 18-36 hours after eating M. diplotricha var. inermis (Tungtrakanpoung and Rhienpanish, 1992), with symptoms of salivation, stiffness, lack of mastication, muscular tremor, dyspnea and recumbency. The toxic elements were found to be cyanide and nitrite. Alex et al. (1991) reported a clinical case of M. diplotricha var. inermis poisoning of a 2-year-old Jersey-cross heifer in India, with the severity of the clinical signs and lesions correlated well with the quantity of the weed consumed. Other animals grazing in the same area did not develop any clinical
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4.05 4.05 4.06 4.07 4.08	1. Toxicol Int. http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3052593/ (Accessed: 25 July 2015) 2. CABI. http://www.cabi.org/isc/datasheet/34196 (Accessed: 24 July 2015) 1. Toxicol Int. http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3052593/ (Accessed: 25 July 2015) 2. CABI. http://www.cabi.org/isc/datasheet/34196 (Accessed: 24 July 2015) 1. Toxicol Int. http://www.cabi.org/isc/datasheet/34196 (Accessed: 24 July 2015) 1. Pacific Island Ecosysyems at Risk. http://www.box.org/sic/datasheet/at Risk.	1&2. Toxic to livestock "Mimosa invisa is a shrubby herbaceous plant, which is widespread in central and southern parts of Kerala. Toxicity due to consumption of this plant is very common in Kerala during rainy season." 2. "There is evidence that M. diplotricha is toxic to stock (Waterhouse and Norris, 1987; Gibson and Waring, 1994), although Parsons and Cuthbertson (1992) report that a wether fed 60-90 g/day mixed with lucerne chaff did not suffer any adverse symptoms. In Thailand, 22 swamp buffaloes died 18-36 hours after eating M. diplotricha var. inermis (Tungtrakanpoung and Rhienpanish, 1992), with symptoms of salivation, stiffness, lack of mastication, muscular tremor, dyspnea and recumbency. The toxic elements were found to be cyanide and nitrite. Alex et al. (1991) reported a clinical case of M. diplotricha var. inermis poisoning of a 2-year-old Jersey-cross heifer in India, with the severity of the clinical signs and lesions correlated well with the quantity of the weed consumed. Other animals grazing in the same area did not develop any clinical signs of toxicity, and it appears as if the toxicity is also related to the stage of growth of the plant, and various other animal factors such as the development of tolerance. Tests in Queensland, Australia, show this variety to be toxic to sheep, and a report from Flores, Indonesia, suggests that it is toxic to pigs (Parsons and Cuthbertson, 1992)." No evidence that this plant is a recognized primary or secondary host No evidence
4.05 4.05 4.06 4.07 4.08	Toxicol Int. http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3052593/ (Accessed: 25 July 2015) 2. CABI. http://www.cabi.org/isc/datasheet/34196 (Accessed: 24 July 2015) Toxicol Int. http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3052593/ (Accessed: 25 July 2015) 2. CABI. http://www.cabi.org/isc/datasheet/34196 (Accessed: 24 July 2015) ttp://www.cabi.org/isc/datasheet/34196 (Accessed: 24 July 2015) Toxicol Int. http://www.cabi.org/isc/datasheet/34196 (Accessed: 24 July 2015)	1&2. Toxic to livestock "Mimosa invisa is a shrubby herbaceous plant, which is widespread in central and southern parts of Kerala. Toxicity due to consumption of this plant is very common in Kerala during rainy season." 2. "There is evidence that M. diplotricha is toxic to stock (Waterhouse and Norris, 1987; Gibson and Waring, 1994), although Parsons and Cuthbertson (1992) report that a wether fed 60-90 g/day mixed with lucerne chaff did not suffer any adverse symptoms. In Thailand, 22 swamp buffaloes died 18-36 hours after eating M. diplotricha var. inermis (Tungtrakanpoung and Rhienpanish, 1992), with symptoms of salivation, stiffness, lack of mastication, muscular tremor, dyspnea and recumbency. The toxic elements were found to be cyanide and nitrite. Alex et al. (1991) reported a clinical case of M. diplotricha var. inermis poisoning of a 2-year-old Jersey-cross heifer in India, with the severity of the clinical signs and lesions correlated well with the quantity of the weed consumed. Other animals grazing in the same area did not develop any clinical signs of toxicity, and it appears as if the toxicity is also related to the stage of growth of the plant, and various other animal factors such as the development of tolerance. Tests in Queensland, Australia, show this variety to be toxic to sheep, and a report from Flores, Indonesia, suggests that it is toxic to pigs (Parsons and Cuthbertson, 1992)." No evidence "A wildland fire hazard when dry."

4.10	1. CABI. http://www.cabi.org/isc/datasheet/34196 (Accessed: 24 July	1. "Soil Tolerances: Soil drainage (free, impeded), Soil reaction (acid,
	2015)	neutral), Soil texture (heavy, medium)" "It grows in light or heavy, moist,
		al., 1987)." insufficient evidence
4.11	1. Pacific Island Ecosysyems at Risk.	1. "An erect, climbing, ascending or prostrate biennial or perennial
	http://www.hear.org/pier/species/mimosa_diplotricha.htm (Accessed: 24	shrub" 2. " climbing plant with creeping (i.e. prostrate) or scrambling
	July 2015) 2. Queensland Government.	stems (occasionally reaching up to 6 m long)"
	http://keyserver.lucidcentral.org/weeds/data/03030800-0b07-490a-8d04-	
	0605030cut01/media/Html/Mimosa_diplotricha_vardiplotricha.htm	
1 1 2	(Accessed, 26 July 2015)	1 "shruh that often froms a dense thicket"
4.12	http://www.hear.org/pier/species/mimosa_diplotricha.htm (Accessed: 24	
	July 2015)	
5.01	1. USDA, ARS, National Genetic Resources Program. Germplasm	1. "Family: Fabaceae"
	Resources Information Network - (GRIN) [Online Database]. National	
	Germplasm Resources Laboratory, Beltsville, Maryland. http://www.ars-	
	grin.gov/cgi-bin/npgs/html/taxon.pl?313380 (Accessed: 28 July 2015)	
5.02	1. USDA, ARS, National Genetic Resources Program. Germplasm	1. "Family: Fabaceae"
	Resources Information Network - (GRIN) [Online Database]. National Germplasm Resources Laboratory, Beltsville, Manyland, http://www.are-	
	arin gov/cgi-hin/nngs/html/taxon pl2313380 (Accessed: 28. July 2015)	
5.03	1 USDA ARS National Genetic Resources Program, Germplasm	1 "Family: Fabaceae" 2 "M. diplotricha is a nitrogen-fixing legume
5.05	Resources Information Network - (GRIN) [Online Database]. National	species."
	Germplasm Resources Laboratory, Beltsville, Maryland. http://www.ars-	
	grin.gov/cgi-bin/npgs/html/taxon.pl?313380 (Accessed: 28 July 2015) 2.	
	CABI. http://www.cabi.org/isc/datasheet/34196 (Accessed: 24 July 2015)	
5.04		No evidence of specialized structures
6.01		No evidence of substantial reproductive failure
6.02	1. Pacific Island Ecosysyems at Risk.	1. "Very young seedlings a few weeks old can produce viable seeds and
	http://www.hear.org/pier/species/mimosa_diplotricha.htm (Accessed: 24	some will germinate immediately. Some seeds, however, remain in the
6.02	July 2015)	soli for years before germinating
6.03	1 Encyclopedia of Life, http://labs.col.org/pages/417042/details	
6.04	(Accessed: 28 July 2015)	
6.05	1. Pacific Island Ecosysyems at Risk.	1. "M. diplotricha is also a major source of pollen grains for Italian
	July 2015)	Tioneybees (Apis mennera) in the Finippines (Fayawai et al., 1991)
6.06	1. CABI. http://www.cabi.org/isc/datasheet/34196 (Accessed: 24 July	1. "Plant type: seed propagated"
	2015)	
6.07	1. Pacific Island Ecosysyems at Risk.	1. "Very young seedlings a few weeks old can produce viable seeds and
	http://www.hear.org/pier/species/mimosa_diplotricha.htm (Accessed: 24	some will germinate immediately. Some seeds, however, remain in the
7.01	July 2015) 1. Desifie Island Econysysme at Bick	soil for years before germinating
7.01	1. Facilic Islanu Ecosysyems at Risk.	 Pous are also spread when allached to full, clothing, and mud off vehicles " "A major weed in pastures, plantations and roadsides and can
	July 2015)	also be serious in crops."
7.02	1. Asia- Pacific Forest Invasice Species Network.	1. "It is used as nitrogen fixing cover crop and green manure in several
	http://www.fao.org/forestry/13377-	countries in the Asia-Pacific region. The spineless variety is an excellent
	0977cb34791475aa6a7a360640f09778.pdf (Accessed: 24 July 2015)	soilimproverandsoilbinder."
7.03	1. Queensland Government.	1. "They may also be spread by machinery or as a contaminant of soil or
	http://keyserver.lucidcentral.org/weeds/data/03030800-0b07-490a-8d04-	agricultural produce." 2. Pathway Cectors- Bulk freight/cargo (long
	U0U0U3UCUTU1/media/Html/Mimosa_diplotricha_vardiplotricha.htm	distances)
	http://www.cabi.org/isc/datasheet/34196 (Accessed: 28 July 2015)	
7.04	1. USDA Plants Database.	1. See photo. Seeds have no features exhibiting adaptation to wind
7.04	http://plants.usda.gov/core/profile?symbol=MIDI8 (Accessed: 24 July	dispersal.
	2015)	·
7.05	1. Pacific Island Ecosysyems at Risk.	1. "Seed pods float and are spread by water"
	http://www.hear.org/pier/species/mimosa_diplotricha.htm (Accessed: 24	
	July 2015)	

7.06	1. CABI. http://www.cabi.org/isc/datasheet/34196 (Accessed: 24 July 2015)	1. "Spiny, barbed seeds are adapted to dispersal by being carried by the fur or feathers of animals and birds"; unknown whether the seeds are consumed/survive passage through the digestive track, but it is unlikely considering the seed is housed in a hard pods and is toxic to livestock
7.07	1. Pacific Island Ecosysyems at Risk. http://www.hear.org/pier/species/mimosa_diplotricha.htm (Accessed: 24 July 2015)	1. "Pods are also spread when attached to fur, clothing, and mud on vehicles."
7.08		No evidence. Unlikely considering the plant is toxic to animals)
8.01	1. CABI. http://www.cabi.org/isc/datasheet/34196 (Accessed: 24 July 2015)	1. "Up to 20,000 seeds/m ² /year can be produced (Kuniata et al., 1993), and it is precocious, as even seedlings a few weeks old can produce viable seed (Holm et al., 1977; Waterhouse and Norris, 1987; Parsons and Cuthbertson, 1992)"
8.02	1. Pacific Island Ecosysyems at Risk. http://www.hear.org/pier/species/mimosa_diplotricha.htm (Accessed: 28 July 2015) 2. CABI. http://www.cabi.org/isc/datasheet/34196 (Accessed: 24 July 2015)	1. "Very young seedlings a few weeks old can produce viable seeds and some will germinate immediately. Some seeds, however, remain in the soil for years before germinating" 2. "The plant is extremely persistent because it produces physically and physiologically hard seeds which can survive in the soil for many years (Chadhokar, 1978; Henty and Pritchard, 1988; Parsons and Cuthbertson, 1992; Kuniata et al., 1993; Muniappan and Viraktamath, 1993). Seeds may remain dormant for up to 50 years (Anon., 2001b)"
8.03	1. Queensland Governmnet. https://www.daf.qld.gov.au/data/assets/pdf_file/0017/67121/IPA-Giant-Sensitive-Plant-PP27.pdf (Accessed: 24 July 2015) 2. Asia- Pacific Forest Invasive Spcies Network. http://www.fao.org/forestry/13377- 0977cb34791475aa6a7a360640f09778.pdf (Accessed: 28 July 2015)	1. "Herbicide control- Selective herbicides are available for the control of giant sensitive plant in non-agricultural land, rights-of-way, pastures and sugar cane. Actives registered for the control of giant sensitive plant are listed in Table 1." 2. "Use of glyphosate (0.75 kg), paraquat (0.5 kg), diuron (2 - 4 kg), acetochlor plus atrazine (0.92 + 0.63 kg), starane (1.3-1.5 l), atrazine plus metolachlor (0.82 + 1.68 kg) and atrazine-500 g a.i. (4 - 6 l) per ha would give good control of Mimosa. For best results, the applications are to be done before the onset of flowering and fruiting. However, the efficacy of herbicides is short-lived and applications may have to be done periodically, depending on the re-growth of the weed."
8.04	1. CABI. http://www.cabi.org/isc/datasheet/34196 (Accessed: 24 July 2015)	1. "Tolerates, or benefits from, cultivation, browsing pressure, mutilation, fire etc" "The seeds have a long dormancy period (Kostermans et al., 1987; Swarbrick, 1989), which can be broken by the heat from grass fires (Kuniata et al., 1993)" "Cultivation, cutting or burning are not generally effective methods of control because plants vigorously regrow from the root crown, and seedling development is rapid and prolific (Waterhouse and Norris, 1987; Parsons and Cuthbertson, 1992)"
8.05	1. USDA. https://www.aphis.usda.gov/plant_health/ea/downloads/heteropsylla_spin ulosa.pdf (Accessed: 30 July 2015) 2. CABI. http://www.cabi.org/isc/datasheet/34196 (Accessed: 30 July 2015)	 Heteropsylla spinulosa is used as a biocontrol agent of Mimosa invisa. "The insect genus Heteropsylla comprises a group of legume-feeding psyllids that has a natural distribution covering the southern United States" "In Queensland, Australia, H. spinulosa is effective in controlling M. diplotricha in pasture and non-productive areas (Ablin, 1990). In Papua New Guinea, large stands of M. diplotricha were reduced significantly in pastures and other situations within 12 months of psyllid releases. In the Cook Islands and Pohnpei and Yap (Federated States of Micronesia), H. spinulosa is established and impacting the weed population (Esguerra et al., 1997; Julien and Griffiths, 1998; Julien et al., 2007)." 2. Heteropsylla spinulosa is a natural enemy which eats stems and leaves and is present in the US.