

<b>Taxon:</b> Corypha lecomtei	<b>Family:</b> Arecaceae
<b>Common Name(s):</b> la buong lan palm thi talipot palm	<b>Synonym(s):</b>

<b>Assessor:</b> Assessor	<b>Status:</b> Assessor Approved	<b>End Date:</b> 13 Aug 2014
<b>WRA Score:</b> 2.0	<b>Designation:</b> EVALUATE	<b>Rating:</b> Evaluate

**Keywords:** Tropical Palm, Ornamental, Spiny Petioles, Monocarpic, Fleshy-fruited

Qsn #	Question	Answer Option	Answer
101	Is the species highly domesticated?	y=-3, n=0	n
102	Has the species become naturalized where grown?		
103	Does the species have weedy races?		
201	Species suited to tropical or subtropical climate(s) - If island is primarily wet habitat, then substitute "wet tropical" for "tropical or subtropical"	(0-low; 1-intermediate; 2-high) (See Appendix 2)	High
202	Quality of climate match data	(0-low; 1-intermediate; 2-high) (See Appendix 2)	High
203	Broad climate suitability (environmental versatility)	y=1, n=0	n
204	Native or naturalized in regions with tropical or subtropical climates	y=1, n=0	y
205	Does the species have a history of repeated introductions outside its natural range?	y=-2, ?=-1, n=0	n
301	Naturalized beyond native range	y = 1*multiplier (see Appendix 2), n= question 205	n
302	Garden/amenity/disturbance weed	n=0, y = 1*multiplier (see Appendix 2)	n
303	Agricultural/forestry/horticultural weed	n=0, y = 2*multiplier (see Appendix 2)	n
304	Environmental weed	n=0, y = 2*multiplier (see Appendix 2)	n
305	Congeneric weed	n=0, y = 1*multiplier (see Appendix 2)	n
401	Produces spines, thorns or burrs	y=1, n=0	y
402	Allelopathic		
403	Parasitic	y=1, n=0	n
404	Unpalatable to grazing animals		
405	Toxic to animals		
406	Host for recognized pests and pathogens		
407	Causes allergies or is otherwise toxic to humans	y=1, n=0	n
408	Creates a fire hazard in natural ecosystems	y=1, n=0	n
409	Is a shade tolerant plant at some stage of its life cycle	y=1, n=0	n

Qsn #	Question	Answer Option	Answer
410	Tolerates a wide range of soil conditions (or limestone conditions if not a volcanic island)	y=1, n=0	y
411	Climbing or smothering growth habit	y=1, n=0	n
412	Forms dense thickets	y=1, n=0	y
501	Aquatic	y=5, n=0	n
502	Grass	y=1, n=0	n
503	Nitrogen fixing woody plant	y=1, n=0	n
504	Geophyte (herbaceous with underground storage organs -- bulbs, corms, or tubers)	y=1, n=0	n
601	Evidence of substantial reproductive failure in native habitat	y=1, n=0	n
602	Produces viable seed	y=1, n=-1	y
603	Hybridizes naturally		
604	Self-compatible or apomictic		
605	Requires specialist pollinators	y=-1, n=0	n
606	Reproduction by vegetative fragmentation	y=1, n=-1	n
607	Minimum generative time (years)	1 year = 1, 2 or 3 years = 0, 4+ years = -1	>3
701	Propagules likely to be dispersed unintentionally (plants growing in heavily trafficked areas)	y=1, n=-1	n
702	Propagules dispersed intentionally by people	y=1, n=-1	y
703	Propagules likely to disperse as a produce contaminant	y=1, n=-1	n
704	Propagules adapted to wind dispersal	y=1, n=-1	n
705	Propagules water dispersed		
706	Propagules bird dispersed		
707	Propagules dispersed by other animals (externally)		
708	Propagules survive passage through the gut	y=1, n=-1	y
801	Prolific seed production (>1000/m <sup>2</sup> )		
802	Evidence that a persistent propagule bank is formed (>1 yr)		
803	Well controlled by herbicides		
804	Tolerates, or benefits from, mutilation, cultivation, or fire		
805	Effective natural enemies present locally (e.g. introduced biocontrol agents)		

**Supporting Data:**

Qsn #	Question	Answer
101	Is the species highly domesticated?	n
	Source(s)	Notes
	Henderson, A. 2009. Palms of Southern Asia. Princeton University Press, Princeton, NJ	No evidence
102	Has the species become naturalized where grown?	
	Source(s)	Notes
	WRA Specialist. 2014. Personal Communication	NA
103	Does the species have weedy races?	
	Source(s)	Notes
	WRA Specialist. 2014. Personal Communication	NA
201	Species suited to tropical or subtropical climate(s) - If island is primarily wet habitat, then substitute "wet tropical" for "tropical or subtropical"	High
	Source(s)	Notes
	Henderson, A. 2009. Palms of Southern Asia. Princeton University Press, Princeton, NJ	"Range and habitat. Cambodia, Laos, Thailand (East, Southeast), and Vietnam (Southern)"
202	Quality of climate match data	High
	Source(s)	Notes
	Henderson, A. 2009. Palms of Southern Asia. Princeton University Press, Princeton, NJ	
203	Broad climate suitability (environmental versatility)	n
	Source(s)	Notes
	Dave's Garden. 2014. PlantFiles: Corypha - Corypha lecomtei. <a href="http://davesgarden.com/guides/pf/go/65307/">http://davesgarden.com/guides/pf/go/65307/</a> . [Accessed 11 Aug 2014]	"Hardiness: USDA Zone 11: above 4.5 °C (40 °F)"
	Ellison, D. & Ellison, A. 2001. Cultivated Palms of the World. UNSW Press, Sydney, Australia	"In cultivation, it requires an open sunny aspect with moist soil and a tropical or subtropical climate."
	Puccio, P. 2014. Corypha lecomtei. <a href="http://www.photomazza.com/?Corypha-lecomtei">http://www.photomazza.com/?Corypha-lecomtei</a> . [Accessed 12 Aug 2014]	"The plant is native to Cambodia, Laos, Thailand and Vietnam where it grows in the dry forests or in the open spaces along the water streams, up to about 600 m of altitude, in zones characterized by a conspicuous seasonality." ... "It looks like that the leaves get damages at -2 °C, and that the whole plant dies when the temperatures decrease of further two, three degrees, even if for very short time."

Qsn #	Question	Answer
204	Native or naturalized in regions with tropical or subtropical climates	y
	Source(s)	Notes
	Henderson, A. 2009. Palms of Southern Asia. Princeton University Press, Princeton, NJ	"Range and habitat. Cambodia, Laos, Thailand (East, Southeast), and Vietnam (Southern)"

205	Does the species have a history of repeated introductions outside its natural range?	n
	Source(s)	Notes
	Puccio, P. 2014. <i>Corypha lecomtei</i> . <a href="http://www.photomazza.com/?Corypha-lecomtei">http://www.photomazza.com/?Corypha-lecomtei</a> . [Accessed 12 Aug 2014]	"The plant is little cultivated outside its origin zone and there are not, for instance, many information about its resistance to the low temperatures."
	Riffle, R.L.& Craft, P. 2003. An Encyclopedia of Cultivated Palms. Timber Press, Portland, OR.	Not included in this book

301	Naturalized beyond native range	n
	Source(s)	Notes
	Imada, C. 2012. Hawaiian Native and Naturalized Vascular Plants Checklist (December 2012 update). Bishop Museum Technical Report 60. Bishop Museum, Honolulu, HI	No evidence
	Randall, R.P. 2012. A Global Compendium of Weeds. 2nd Edition. Department of Agriculture and Food, Western Australia	No evidence

302	Garden/amenity/disturbance weed	n
	Source(s)	Notes
	Randall, R.P. 2012. A Global Compendium of Weeds. 2nd Edition. Department of Agriculture and Food, Western Australia	No evidence

303	Agricultural/forestry/horticultural weed	n
	Source(s)	Notes
	Randall, R.P. 2012. A Global Compendium of Weeds. 2nd Edition. Department of Agriculture and Food, Western Australia	No evidence

Qsn #	Question	Answer
304	Environmental weed	n
	Source(s)	Notes
	Meyer, J. Y., Lavergne, C., & Hodel, D. R. 2008. Time bombs in gardens: invasive ornamental palms in tropical islands, with emphasis on French Polynesia (Pacific Ocean) and the Mascarenes (Indian Ocean). <i>Palms</i> , 52(2): 71-83	No evidence
	Randall, R.P. 2012. <i>A Global Compendium of Weeds</i> . 2nd Edition. Department of Agriculture and Food, Western Australia	No evidence

305	Congeneric weed	n
	Source(s)	Notes
	Randall, R.P. 2012. <i>A Global Compendium of Weeds</i> . 2nd Edition. Department of Agriculture and Food, Western Australia	No evidence

401	Produces spines, thorns or burrs	y
	Source(s)	Notes
	Dave's Garden. 2014. PlantFiles: <i>Corypha</i> - <i>Corypha lecomtei</i> . <a href="http://davesgarden.com/guides/pf/go/65307/">http://davesgarden.com/guides/pf/go/65307/</a> . [Accessed 11 Aug 2014]	"On May 1, 2004, palmbob from Acton, CA (Zone 8b) wrote:" ... "A truly massive and beautiful palm, native to Thailand. This is a relatively short <i>Corypha</i> , but no less humongous... has very upright habit with leaves about 6' across on 10-15' petioles heavily armed with small, sharp black and grey teeth."
	Palmpedia. 2014. <i>Corypha lecomtei</i> . <a href="http://www.palmpedia.net/wiki/Corypha_lecomtei">http://www.palmpedia.net/wiki/Corypha_lecomtei</a> . [Accessed 9 Aug 2014]	"Solitary trunk, monoecious, (both sexes on one plant), monocarpic, (inflorescence is terminal, dies after it flowers), which means it has only one chance to bear fruit, (like <i>Caryota</i> genus). Up to 6 meters tall, with a diameter of 70 cm., old leaves form a skirt, leaves are costapalmate, ascendant, (upright), with leaf tips slightly drooping, gray-green in color, the leaf itself about 2 meters long, on a 6 meter long, armed petiole, with 1 cm. long thorns, green with black borders, and unsplit at the base, with about a 3 meter spread"

402	Allelopathic	
	Source(s)	Notes
	WRA Specialist. 2014. Personal Communication	Unknown

403	Parasitic	n
	Source(s)	Notes
	Henderson, A. 2009. <i>Palms of Southern Asia</i> . Princeton University Press, Princeton, NJ	Areaceae

404	Unpalatable to grazing animals	
	Source(s)	Notes

Qsn #	Question	Answer
	Johnson, D.V. 1998. Non-Wood Forest Products 10: Tropical Palms. FAO, Rome	[Unknown. Fodder not listed among uses] "Table 4-4: Non-threatened Southeast Asian Palms with Reported Uses (excluding rattans)" ... "Products/Uses" ... "1) leaves for thatching & weaving mats, sails and bags; petiole to make arrows & walking sticks; edible stem starch; fruits as fish poison"

405	Toxic to animals	
	Source(s)	Notes
	Johnson, D.V. 1998. Non-Wood Forest Products 10: Tropical Palms. FAO, Rome	[Unknown. Fruit used as fish poison] "Table 4-4: Non-threatened Southeast Asian Palms with Reported Uses (excluding rattans)" ... "Corypha lecomtei" ... "Products/Uses - 1) leaves for thatching & weaving mats, sails and bags; petiole to make arrows & walking sticks; edible stem starch; fruits as fish poison"

406	Host for recognized pests and pathogens	
	Source(s)	Notes
	WRA Specialist. 2014. Personal Communication	Unknown

407	Causes allergies or is otherwise toxic to humans	n
	Source(s)	Notes
	Johnson, D.V. 1998. Non-Wood Forest Products 10: Tropical Palms. FAO, Rome	[Despite use as a fish poison, no reports of human poisoning or allergies] "1) leaves for thatching & weaving mats, sails and bags; petiole to make arrows & walking sticks; edible stem starch; fruits as fish poison"
	Wagstaff, D.J. 2008. International poisonous plants checklist: an evidence-based reference. CRC Press, Boca Raton, FL	No evidence

408	Creates a fire hazard in natural ecosystems	n
	Source(s)	Notes
	Henderson, A. 2009. Palms of Southern Asia. Princeton University Press, Princeton, NJ	[As a solitary stem tree, no evidence that this tree contributes to increased fire frequency, although it may occur in fire prone dry forests] "Stems solitary, to 5 m tall and 100 cm diameter ... " ... "dry forests or open areas along rivers ... "

409	Is a shade tolerant plant at some stage of its life cycle	n
	Source(s)	Notes
	Ellison, D. & Ellison, A. 2001. Cultivated Palms of the World. UNSW Press, Sydney, Australia	"it requires an open sunny aspect "
	Dave's Garden. 2014. PlantFiles: Corypha - Corypha lecomtei. <a href="http://davesgarden.com/guides/pf/go/65307/">http://davesgarden.com/guides/pf/go/65307/</a> . [Accessed 12 Aug 2014]	"Sun Exposure: Full Sun "

Qsn #	Question	Answer
410	Tolerates a wide range of soil conditions (or limestone conditions if not a volcanic island)	y
	Source(s)	Notes
	Puccio, P. 2014. <i>Corypha lecomtei</i> . <a href="http://www.photomazza.com/?Corypha-lecomtei">http://www.photomazza.com/?Corypha-lecomtei</a> . [Accessed 12 Aug 2014]	"It does not seem too demanding about the soil and it may resist to drought periods, as on the other hand happens in its habitat."

411	Climbing or smothering growth habit	n
	Source(s)	Notes
	Henderson, A. 2009. <i>Palms of Southern Asia</i> . Princeton University Press, Princeton, NJ	"Field characters. Stems solitary, to 5 m tall and 100 cm diameter, smooth or often covered with persistent leaf bases, without spiral furrows."

412	Forms dense thickets	y
	Source(s)	Notes
	Naval Intelligence Division. 2010. <i>Indo-China Geographical Handbook</i> . Routledge, New York	"In parts of Annam pure stands of a palm ( <i>Corypha lecomtei</i> ) occur in the forest."

501	Aquatic	n
	Source(s)	Notes
	Henderson, A. 2009. <i>Palms of Southern Asia</i> . Princeton University Press, Princeton, NJ	"dry forest or open areas along rivers, commonly persisting in disturbed places, at low elevations."

502	Grass	n
	Source(s)	Notes
	Henderson, A. 2009. <i>Palms of Southern Asia</i> . Princeton University Press, Princeton, NJ	Areaceae

503	Nitrogen fixing woody plant	n
	Source(s)	Notes
	Henderson, A. 2009. <i>Palms of Southern Asia</i> . Princeton University Press, Princeton, NJ	Areaceae

504	Geophyte (herbaceous with underground storage organs -- bulbs, corms, or tubers)	n
	Source(s)	Notes

Qsn #	Question	Answer
	<p>Palmpedia. 2014. <i>Corypha lecomtei</i>.  <a href="http://www.palmpedia.net/wiki/Corypha_lecomtei">http://www.palmpedia.net/wiki/Corypha_lecomtei</a>.                      [Accessed 11 Aug 2014]</p>	<p>"Solitary trunk, monoecious, (both sexes on one plant), monocarpic, (inflorescence is terminal, dies after it flowers), which means it has only one chance to bear fruit, (like <i>Caryota</i> genus). Up to 6 meters tall, with a diameter of 70 cm., old leaves form a skirt, leaves are costapalmate, ascendant, (upright), with leaf tips slightly drooping, gray-green in color, the leaf itself about 2 meters long, on a 6 meter long, armed petiole, with 1 cm. long thorns, green with black borders, and unsplit at the base, with about a 3 meter spread, 10 meter tall inflorescence, on a 2 meter tall peduncle, with whitish flowers, the blossom occurs when the tree is between 40 and 60 years old, when it has stored a great deal of starches, that are converted to sugars, in order to produce the massive inflorescence, fruit is globular, 7-8 cm. long, and brownish in color. Editing by edric. "</p>

601	Evidence of substantial reproductive failure in native habitat	n
	Source(s)	Notes
	Henderson, A. 2009. <i>Palms of Southern Asia</i> . Princeton University Press, Princeton, NJ	No evidence

602	Produces viable seed	y
	Source(s)	Notes
	<p>Irawanto, R. 2014. Distribution Study of <i>Corypha utan</i> Lamk. From Herbarium Bogorienses Specimens and the Conservation Areas in East Java. Pp. 135-144 In Proceedings of the 4th International Conference on Global Resource Conservation &amp; 10th Indonesian Society for Plant Taxonomy Congress, Brawijaya University</p>	<p>[Genus description] "Propagation of <i>Corypha</i> by seed, but seed viability can disappear quickly,..."</p>

603	Hybridizes naturally	
	Source(s)	Notes
	<p>National Park Office. 2006. <i>National Parks in Thailand</i>. National Park, Wildlife and Plant Conservation Department, Bangkok</p>	<p>[Unknown, but long time to reproductive maturity &amp; monocarpic flowering would minimize chance for natural hybridization] "Lan forest. The last Lan forest (<i>Corypha lecomtei</i>) in Thailand. This ancient tree flowers when it is more than 20 years old. Each contains more than 60 million flowers. The tree dies after the blossom."</p>



Qsn #	Question	Answer
604	<b>Self-compatible or apomictic</b>	
	<b>Source(s)</b>	<b>Notes</b>
	Henderson, A. 1986. A review of pollination studies in the Palmae. The Botanical Review, 52(3): 221-259	[Other <i>Corypha</i> species are self-compatible] "Tomlinson and Soderholm (1975) reported that <i>C. elata</i> Roxb. in cultivation in Florida was self-compatible"
	Palmpedia. 2014. <i>Corypha lecomtei</i> . <a href="http://www.palmpedia.net/wiki/Corypha_lecomtei">http://www.palmpedia.net/wiki/Corypha_lecomtei</a> . [Accessed ]	[Unknown, but monoecious, so theoretically possible] "Solitary trunk, monoecious, (both sexes on one plant), monocarpic, (inflorescence is terminal, dies after it flowers), which means it has only one chance to bear fruit, (like <i>Caryota</i> genus). "

605	Requires specialist pollinators	n
	<b>Source(s)</b>	<b>Notes</b>
	Henderson, A. 1986. A review of pollination studies in the Palmae. The Botanical Review, 52(3): 221-259	[No mention of specialized pollinator requirements] "Douglas and Bimantoro (1956) gave a list of insect visitors to <i>Corypha</i> flowering in cultivation in Indonesia"

606	Reproduction by vegetative fragmentation	n
	<b>Source(s)</b>	<b>Notes</b>
	Irawanto, R. 2014. Distribution Study of <i>Corypha utan</i> Lamk. From Herbarium Bogorienses Specimens and the Conservation Areas in East Java. Pp. 135-144 In Proceedings of the 4th International Conference on Global Resource Conservation & 10th Indonesian Society for Plant Taxonomy Congress, Brawijaya University	[Reproduces by seed] "Propagation of <i>Corypha</i> by seed, but seed viability can disappear quickly,"

607	Minimum generative time (years)	>3
	<b>Source(s)</b>	<b>Notes</b>
	National Park Office. 2006. National Parks in Thailand. National Park, Wildlife and Plant Conservation Department, Bangkok	"Lan forest. The last Lan forest ( <i>Corypha lecomtei</i> ) in Thailand. This ancient tree flowers when it is more than 20 years old. Each contains more than 60 million flowers. The tree dies after the blossom."
	Puccio, P. 2014. <i>Corypha lecomtei</i> . <a href="http://www.photomazza.com/?Corypha-lecomtei">http://www.photomazza.com/?Corypha-lecomtei</a> . [Accessed 12 Aug 2014]	"The blossoming occurs when the plant is from 40 to 60 years old, during which the palm has stored in the trunk a great quantity of starch which transforms in sugars necessary to produce the enormous inflorescences."
	Irawanto, R. 2014. Distribution Study of <i>Corypha utan</i> Lamk. From Herbarium Bogorienses Specimens and the Conservation Areas in East Java. Pp. 135-144 In Proceedings of the 4th International Conference on Global Resource Conservation & 10th Indonesian Society for Plant Taxonomy Congress, Brawijaya University	[Genus description] "Growing period ranges from 25-30 years even about 100 years depending on the environmental conditions, generally at 30 years or 60-70 years will blossom and fruiting after they dies [1,3,5,9]."

Qsn #	Question	Answer
701	Propagules likely to be dispersed unintentionally (plants growing in heavily trafficked areas)	n
	Source(s)	Notes
	Henderson, A. 2009. Palms of Southern Asia. Princeton University Press, Princeton, NJ	[Unlikely, as one-seeded fruits are relatively large & lack means of external attachment] "fruits globose, to 7 cm diameter, brownish"

702	Propagules dispersed intentionally by people	y
	Source(s)	Notes
	Wong, M. 2006. Palms for Hawaii Landscapes. Landscape L-19. College of Tropical Agriculture and Human Resources, Honolulu, HI	"“Tropical” theme palms The following palm species can be used to portray a strong “tropical” theme:" [List of palms promoted as a tropical landscaping plant includes <i>Corypha lecomtei</i>
	Ellison, D. & Ellison, A. 2001. Cultivated Palms of the World. UNSW Press, Sydney, Australia	Cultivated as an ornamental & landscaping plant

703	Propagules likely to disperse as a produce contaminant	n
	Source(s)	Notes
	Palmpedia. 2014. <i>Corypha lecomtei</i> . <a href="http://www.palmpedia.net/wiki/Corypha_lecomtei">http://www.palmpedia.net/wiki/Corypha_lecomtei</a> . [Accessed 13 Aug 2014]	[Relatively large fruit & long time to reproductive maturity make inadvertent contamination of produce highly unlikely] "the blossom occurs when the tree is between 40 and 60 years old, when it has stored a great deal of starches, that are converted to sugars, in order to produce the massive inflorescence, fruit is globular, 7-8 cm. long, and brownish in color."

704	Propagules adapted to wind dispersal	n
	Source(s)	Notes
	Henderson, A. 2009. Palms of Southern Asia. Princeton University Press, Princeton, NJ	"fruits globose, to 7 cm diameter, brownish"

705	Propagules water dispersed	
	Source(s)	Notes
	Henderson, A. 2009. Palms of Southern Asia. Princeton University Press, Princeton, NJ	[Distribution along rivers suggests water dispersal may be possible] "fruits globose, to 7 cm diameter, brownish" ... "dry forest or open areas along rivers, commonly persisting in disturbed places, at low elevations."

706	Propagules bird dispersed	
	Source(s)	Notes
	Henderson, A. 2009. Palms of Southern Asia. Princeton University Press, Princeton, NJ	[Possibly. Related, smaller-fruited species are dispersed by birds, but the size of the fruits make dispersal by the suite of birds in the Hawaiian & other tropical Pacific Islands unlikely] "fruits globose, to 7 cm diameter, brownish"

707	Propagules dispersed by other animals (externally)	

Qsn #	Question	Answer
	Source(s)	Notes
	Henderson, A. 2009. Palms of Southern Asia. Princeton University Press, Princeton, NJ	[Possibly carried externally before pulp is consumed, although predation by rodents could also occur] "fruits globose, to 7 cm diameter, brownish"
<b>708</b>	<b>Propagules survive passage through the gut</b>	<b>Y</b>
	Source(s)	Notes
	Henderson, A. 2009. Palms of Southern Asia. Princeton University Press, Princeton, NJ	[Presumably could survive ingestion and be dispersed by feral pigs or other large, fruit consuming animals. Some seed mortality is also likely to occur during mastication & ingestion] "fruits globlose, to 7 cm diameter..."
<b>801</b>	<b>Prolific seed production (&gt;1000/m2)</b>	
	Source(s)	Notes
	Palmpedia. 2014. <i>Corypha lecomtei</i> . <a href="http://www.palmpedia.net/wiki/Corypha_lecomtei">http://www.palmpedia.net/wiki/Corypha_lecomtei</a> . [Accessed 11 Aug 2014]	[Possibly] " It forms a moderately tall, solitary trunk, topped by a large crown of massive, circular, deep green, costapalmate leaves. Like all <i>Corypha</i> , every plant flowers only once with a very large terminal inflorescence that produces thousands of golfball-sized seeds."
	Ellison, D. & Ellison, A. 2001. Cultivated Palms of the World. UNSW Press, Sydney, Australia	[Potentially Yes] "The ripe fruit is brown and tens of thousands may be found on the tree, which dies after the fruit matures."
<b>802</b>	<b>Evidence that a persistent propagule bank is formed (&gt;1 yr)</b>	
	Source(s)	Notes
	Ellison, D. & Ellison, A. 2001. Cultivated Palms of the World. UNSW Press, Sydney, Australia	"Seed germinates in 2 to 4 months with bottom hear."
<b>803</b>	<b>Well controlled by herbicides</b>	
	Source(s)	Notes
	WRA Specialist. 2014. Personal Communication	Unknown. No information on herbicide efficacy or chemical control of this species
<b>804</b>	<b>Tolerates, or benefits from, mutilation, cultivation, or fire</b>	
	Source(s)	Notes
	WRA Specialist. 2014. Personal Communication	Unknown
<b>805</b>	<b>Effective natural enemies present locally (e.g. introduced biocontrol agents)</b>	
	Source(s)	Notes
	WRA Specialist. 2014. Personal Communication	Unknown

**Summary of Risk Traits:**

## High Risk / Undesirable Traits

- Thrives in tropical climates
- Petioles very stout and spiny
- Young fruits used as a fish poison (possible toxic effects to other animals?)
- Tolerates many soil types
- Forms natural dense stands in parts of native range
- Seeds may be dispersed by birds, other frugivorous animals, flowing water & intentionally by people
- Produces millions of flowers & potentially large numbers of seeds
- Tree dies after reaching maturity (drawback in landscaping)
- Limited ecological information makes accurate risk prediction difficult

## Low Risk Traits

- No reports of invasiveness or detrimental impacts, but no evidence of widespread introduction outside native range
- Multiple uses, including ornamental and food
- Reaches maturity after 20+ years
- Not reported to spread vegetatively

## Second Screening Results for Tree/tree-like shrubs

- (A) Shade tolerant or known to form dense stands?> Requires full sun. Reported to form dense stands within native range.
- (B) Bird-dispersed?> Possibly dispersed by birds or other frugivorous animals within native range, but seed size makes this unlikely in the Hawaiian Islands
- (C) Life cycle <4 years? No
- Outcome = Evaluate