

**Family:** *Arecaceae*

**Taxon:** *Oncosperma tigillarum*

**Synonym:** *Areca tigillaria* Jack (*basionym*)

*Euterpe filamentosa* Kunth

*Oncosperma filamentosum* (Kunth) Blume

**Common Name:** nibong

Questionnaire :	current 20090513	Assessor:	Chuck Chimera	Designation:	H(HPWRA)
Status:	Assessor Approved	Data Entry Person:	Chuck Chimera	WRA Score	8
101	Is the species highly domesticated?		y=-3, n=0		n
102	Has the species become naturalized where grown?		y=1, n=-1		
103	Does the species have weedy races?		y=1, n=-1		
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		y
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		y
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		y=1, n=0		
403	Parasitic		y=1, n=0		n
404	Unpalatable to grazing animals		y=1, n=-1		
405	Toxic to animals		y=1, n=0		n
406	Host for recognized pests and pathogens		y=1, n=0		
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		y
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	y=1, n=-1	
604	Self-compatible or apomictic	y=1, n=-1	
605	Requires specialist pollinators	y=-1, n=0	n
606	Reproduction by vegetative fragmentation	y=1, n=-1	y
607	Minimum generative time (years)	1 year = 1, 2 or 3 years = 0, 4+ years = -1	
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	y=1, n=-1	
706	Propagules bird dispersed	y=1, n=-1	y
707	Propagules dispersed by other animals (externally)	y=1, n=-1	n
708	Propagules survive passage through the gut	y=1, n=-1	y
801	Prolific seed production (>1000/m2)	y=1, n=-1	n
802	Evidence that a persistent propagule bank is formed (>1 yr)	y=1, n=-1	
803	Well controlled by herbicides	y=-1, n=1	
804	Tolerates, or benefits from, mutilation, cultivation, or fire	y=1, n=-1	
805	Effective natural enemies present locally (e.g. introduced biocontrol agents)	y=-1, n=1	

Designation: H(HPWRA)

WRA Score **8**

## Supporting Data:

101	2003. Riffle, R.L./Craft, P.. An Encyclopedia of Cultivated Palms. Timber Press, Portland, OR.	[Is the species highly domesticated? No] No evidence
102	2012. WRA Specialist. Personal Communication.	NA
103	2012. WRA Specialist. Personal Communication.	NA
201	2001. Ellison, D./Ellison, A.. Cultivated palms of the world. UNSW Press, Sydney.	[Species suited to tropical or subtropical climate(s) 2-High] "This species is native to the coastal areas of most of Southeast Asia."
202	2001. Ellison, D./Ellison, A.. Cultivated palms of the world. UNSW Press, Sydney.	[Quality of climate match data 2-High]
203	1992. Partomihardjo, T./Mirmanto, E./Riswan, S./Whittaker, R.J.. Ecology and Distribution of Nibung ( <i>Oncosperma tigillarum</i> within the Krakatau Islands, Indonesia. <i>Principes</i> . 36(1): 7-17.	[Broad climate suitability (environmental versatility)? No] "The species is generally confined to forest below 50 m above sea level, in near-coastal localities (Steenis 1935, Backer and van den Brink 1968, House 1984)."
203	1996. Thornton, I.W.B./Compton, S.G./Wilson, C.N.. The Role of Animals in the Colonization of the Krakatau Islands by Fig Trees ( <i>Ficus</i> species). <i>Journal of Biogeography</i> . 23(4): 577-592.	[Broad climate suitability (environmental versatility)? No] "It requires a humid, tropical climate in an open, sunny aspect and is wind-tolerant."
203	2003. Riffle, R.L./Craft, P.. An Encyclopedia of Cultivated Palms. Timber Press, Portland, OR.	[Broad climate suitability (environmental versatility)? No] "The most important cultural requirements are a tropical or nearly tropical climate and copious and regular moisture."
203	2012. Gray, M.. Palms: <i>Oncosperma tigillarum</i> . PACSOA (Palm and Cycad Society of Australia), <a href="http://www.pacsoa.org.au/palms/Oncosperma/tigillarum.html">http://www.pacsoa.org.au/palms/Oncosperma/tigillarum.html</a>	[Broad climate suitability (environmental versatility)? No] "Habitat: Lowland swampy rainforest."
204	2001. Ellison, D./Ellison, A.. Cultivated palms of the world. UNSW Press, Sydney.	[Native or naturalized in regions with tropical or subtropical climates? Yes] "This species is native to the coastal areas of most of Southeast Asia."
205	2012. Gray, M.. Palms: <i>Oncosperma tigillarum</i> . PACSOA (Palm and Cycad Society of Australia), <a href="http://www.pacsoa.org.au/palms/Oncosperma/tigillarum.html">http://www.pacsoa.org.au/palms/Oncosperma/tigillarum.html</a>	[Does the species have a history of repeated introductions outside its natural range? No] "A very attractive palm, but due to its requirements, and size, isn't often seen outside tropical gardens."
301	2008. Meyer, J.-Y./Lavergne, C./Hodel, D. R.. 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: 71-83.	[Naturalized beyond native range? Yes] "Table 2. Naturalized and invasive palms in French Polynesia (FP) and the Mascarene Islands (MS) (*known as naturalized or invasive in other tropical countries). Approximate date of introduction: T = in Tahiti; M = in Mauritius; R = in La Réunion." [ <i>Oncosperma tigillarum</i> ; Date of introduction = 1930 (T); Locally naturalized (Tahiti, FP)]
302	2007. Randall, R.P.. Global Compendium of Weeds - Index [Online Database]. <a href="http://www.hear.org/gcw/">http://www.hear.org/gcw/</a>	[Garden/amenity/disturbance weed? No] No evidence
303	2007. Randall, R.P.. Global Compendium of Weeds - Index [Online Database]. <a href="http://www.hear.org/gcw/">http://www.hear.org/gcw/</a>	[Agricultural/forestry/horticultural weed? No] No evidence
304	2007. Randall, R.P.. Global Compendium of Weeds - Index [Online Database]. <a href="http://www.hear.org/gcw/">http://www.hear.org/gcw/</a>	[Environmental weed? No] No evidence
304	2007. Randall, R.P.. The introduced flora of Australia & its weed status. CRC for Australian Weed Management, Glen Osmond, Australia	[Environmental weed? No] No evidence
305	2007. Randall, R.P.. Global Compendium of Weeds - Index [Online Database]. <a href="http://www.hear.org/gcw/">http://www.hear.org/gcw/</a>	[Congeneric weed? No] No evidence
401	1995. Tomlinson, P.B.. The Botany of Mangroves. Cambridge University Press, Cambridge, UK	[Produces spines, thorns or burrs? Yes] "A tall, many-stemmed palm up to 25 m, but the stems rather slender (scarcely 10cm in diameter) with a crown of pinnate leaves to 4 m long, each leaf with characteristic drooping leaflets. Stems armed with flat, sharp, black spines."
401	2001. Ellison, D./Ellison, A.. Cultivated palms of the world. UNSW Press, Sydney.	[Produces spines, thorns or burrs? Yes] "It is tall, forms very dense clumps of slender, spiny trunks, and has elegant crowns of divided, feather leaves with pendulous leaflets."

402	2012. WRA Specialist. Personal Communication. [Allelopathic? Unknown]	
403	1995. Tomlinson, P.B.. The Botany of Mangroves. Cambridge University Press, Cambridge, UK	[Parasitic? No] "A tall, many-stemmed palm up to 25 m, but the stems rather slender (scarcely 10cm in diameter) with a crown of pinnate leaves to 4 m long, each leaf with characteristic drooping leaflets. Stems armed with flat, sharp, black spines." [Arecaceae]
404	1997. Tomascik, T.. The Ecology of the Indonesian Seas. Tuttle Publishing, North Clarendon, VT	[Unpalatable to grazing animals? Unknown] "Uses: Piles, house posts, flooring, fish-stakes. Flowers added to rice as seasoning; fleshy fruits preserved; terminal buds for vegetables." [Parts of palm are palatable to people, but unknown if animals consume foliage. Spines may deter browsing]
405	2008. Wagstaff, D.J.. International poisonous plants checklist: an evidence-based reference. CRC Press, Boca Raton, FL	[Toxic to animals? No] No evidence
406	2010. Garcia, J.N.. Not Present in Hawaii - Red Palm Weevil. Quarantine Pest Alert. No. QA-10-A. Hawaii Department of Agriculture, Honolulu, HI <a href="http://hawaii.gov/hdoa/pi/ppc/">http://hawaii.gov/hdoa/pi/ppc/</a>	[Host for recognized pests and pathogens? Potentially] "Rhynchophorus ferrugineus, the red palm weevil (RPW), is the most serious and destructive pest of palms in the world. Since its discovery in the 1980's, RPW has spread from its native southeast Asia, to every major geographical area, inhabiting many different climates and farming systems. RPW was absent from the Americas until August 2010, when this pest was first detected in the U.S., in Orange County, California. This beetle is not found in Hawaii!" [Recorded hosts include <i>Oncosperma tigillarum</i> ]
407	2003. Riffle, R.L./Craft, P.. An Encyclopedia of Cultivated Palms. Timber Press, Portland, OR.	[Causes allergies or is otherwise toxic to humans? No evidence] "The seeds are also reportedly used as a betel-nut substitute in Malaysia."
407	2008. Wagstaff, D.J.. International poisonous plants checklist: an evidence-based reference. CRC Press, Boca Raton, FL	[Causes allergies or is otherwise toxic to humans? No] No evidence
408	1992. Partomihardjo, T./Mirmanto, E./Riswan, S./Whittaker, R.J.. Ecology and Distribution of Nibung ( <i>Oncosperma tigillarum</i> within the Krakatau Islands, Indonesia. <i>Principes</i> . 36(1): 7-17.	[Creates a fire hazard in natural ecosystems? No] "The species is generally confined to forest below 50 m above sea level, in near-coastal localities (Steenis 1935, Backer and van den Brink 1968, House 1984)." [No evidence that fire is a natural part of the ecology of this community]
408	2012. Gray, M.. Palms: <i>Oncosperma tigillarum</i> . PACSOA (Palm and Cycad Society of Australia), <a href="http://www.pacsoa.org.au/palms/Oncosperma/tigillarum.html">http://www.pacsoa.org.au/palms/Oncosperma/tigillarum.html</a>	[Creates a fire hazard in natural ecosystems? No evidence] "Habitat: Lowland swampy rainforest." [Unlikely, given natural habitat]
409	1992. Partomihardjo, T./Mirmanto, E./Riswan, S./Whittaker, R.J.. Ecology and Distribution of Nibung ( <i>Oncosperma tigillarum</i> within the Krakatau Islands, Indonesia. <i>Principes</i> . 36(1): 7-17.	[Is a shade tolerant plant at some stage of its life cycle? Yes] "Although requiring shade in the early stages of growth, <i>Oncosperma tigillarum</i> is known as a facultative light demanding species when approaching reproductive maturity;"
409	2003. Riffle, R.L./Craft, P.. An Encyclopedia of Cultivated Palms. Timber Press, Portland, OR.	[Is a shade tolerant plant at some stage of its life cycle? Possibly No] "The clumps are adapted to full sun from an early age and, with enough water, grow quite fast." ... "This palm is not known to be grown indoors and, because of its great size, would seem a poor choice for trying. In addition, it needs lots of light."
409	2012. Dave's Gardern. PlantFiles: Nibung Palm - <i>Oncosperma tigillarum</i> . <a href="http://davesgarden.com/guides/pt/go/67872/">http://davesgarden.com/guides/pt/go/67872/</a>	[Is a shade tolerant plant at some stage of its life cycle? Possibly] "Full Sun: Sun to Partial; Shade; Light Shade"
410	2003. Riffle, R.L./Craft, P.. An Encyclopedia of Cultivated Palms. Timber Press, Portland, OR.	[Tolerates a wide range of soil conditions? Yes] "The species seems almost indifferent to soil type, even intermittently soggy ones, and it is at home on calcareous soils, especially if the trees are mulched."
411	1995. Tomlinson, P.B.. The Botany of Mangroves. Cambridge University Press, Cambridge, UK	[Climbing or smothering growth habit? No] "A tall, many-stemmed palm up to 25 m, but the stems rather slender (scarcely 10cm in diameter) with a crown of pinnate leaves to 4 m long, each leaf with characteristic drooping leaflets. Stems armed with flat, sharp, black spines."
412	1997. Laumonier, Y.. The Vegetation and Physiography of Sumatra. Kluwer Academic Publishers, Dordrecht, The Netherlands	[Forms dense thickets? Yes] "Further south, <i>Oncosperma tigillarum</i> grows very densely (1000 trees/ha in the Musi delta), and the area covered by this economically viable species are vast."
501	2012. Gray, M.. Palms: <i>Oncosperma tigillarum</i> . PACSOA (Palm and Cycad Society of Australia), <a href="http://www.pacsoa.org.au/palms/Oncosperma/tigillarum.html">http://www.pacsoa.org.au/palms/Oncosperma/tigillarum.html</a>	[Aquatic? No] "Habitat: Lowland swampy rainforest." [Terrestrial palm of swampy habitat]

502	2012. USDA ARS National Genetic Resources Program. Germplasm Resources Information Network - (GRIN) [Online Database]. <a href="http://www.ars-grin.gov/cgi-bin/npgs/html/index.pl">http://www.ars-grin.gov/cgi-bin/npgs/html/index.pl</a>	[Grass? No] Arecaceae
503	2012. USDA ARS National Genetic Resources Program. Germplasm Resources Information Network - (GRIN) [Online Database]. <a href="http://www.ars-grin.gov/cgi-bin/npgs/html/index.pl">http://www.ars-grin.gov/cgi-bin/npgs/html/index.pl</a>	[Nitrogen fixing woody plant? No] Arecaceae
504	2001. Ellison, D./Ellison, A.. Cultivated palms of the world. UNSW Press, Sydney.	[Geophyte (herbaceous with underground storage organs -- bulbs, corms, or tubers)? No] "It is tall, forms very dense clumps of slender, spiny trunks, and has elegant crowns of divided, feather leaves with pendulous leaflets."
601	1992. Partomihardjo, T./Mirmanto, E./Riswan, S./Whittaker, R.J.. Ecology and Distribution of Nibung ( <i>Oncosperma tigillarum</i> within the Krakatau Islands, Indonesia. <i>Principes</i> . 36(1): 7-17.	[Evidence of substantial reproductive failure in native habitat? No, but overharvested] "Recently this palm tree has become threatened in many places, especially near the coast, due to utilization for "bagang" poles. Stems of nibung are also used as a major building component, the leaf sheaths in basket making and the heart or cabbage is eaten raw or cooked in a coconut sauce (Dransfield 1976, House 1983)."
601	1997. Laumonier, Y.. The Vegetation and Physiography of Sumatra. Kluwer Academic Publishers, Dordrecht, The Netherlands	[Evidence of substantial reproductive failure in native habitat? No] No evidence
602	2001. Ellison, D./Ellison, A.. Cultivated palms of the world. UNSW Press, Sydney.	[Produces viable seed? Yes] "Mature fruit is purple to black and fresh seed is required for germination, which takes from 3 to 6 months."
603	2012. WRA Specialist. Personal Communication.	[Hybridizes naturally? Unknown]
604	2012. WRA Specialist. Personal Communication.	[Self-compatible or apomictic? Unknown]
605	1994. Zomlefer, W.B.. Guide to Flowering Plant Families. The University of North Carolina Press, Chapel Hill & London	[Requires specialist pollinators? No] "Although early monographers assumed that many palms were anemophilous, the flowers actually are predominantly entomophilous. Common insect vectors include beetles, Hymenoptera, and flies; bats and hummingbirds also have been noted (Henderson 1986)."
605	2003. Riffle, R.L./Craft, P.. An Encyclopedia of Cultivated Palms. Timber Press, Portland, OR.	[Requires specialist pollinators? No] "The inflorescences grow from nodes beneath the crownshafts and consist of pendent, bright yellow flowering branches bearing both male and female blossoms." [No evidence]
606	1992. Partomihardjo, T./Mirmanto, E./Riswan, S./Whittaker, R.J.. Ecology and Distribution of Nibung ( <i>Oncosperma tigillarum</i> within the Krakatau Islands, Indonesia. <i>Principes</i> . 36(1): 7-17.	[Reproduction by vegetative fragmentation? Yes] "In addition to seed production, nibung clumps also increase by the production of new buds at the base of the trunks of mature Plants."
606	2004. Nugent, J./Boniface, J.. Permaculture Plants: A Selection. Chelsea Green Publishing, White River Jct., VT	[Reproduction by vegetative fragmentation? Yes] "SE Asia: tropical rainforest, coastal sites. Edible heart; trunk for wood, which is resistant to salt water. Local products only; suckering feather palm." [Able to spread by suckering]
607	2003. Riffle, R.L./Craft, P.. An Encyclopedia of Cultivated Palms. Timber Press, Portland, OR.	[Minimum generative time (years)? Unknown] "The clumps are adapted to full sun from an early age and, with enough water, grow quite fast."
701	1992. Partomihardjo, T./Mirmanto, E./Riswan, S./Whittaker, R.J.. Ecology and Distribution of Nibung ( <i>Oncosperma tigillarum</i> within the Krakatau Islands, Indonesia. <i>Principes</i> . 36(1): 7-17.	[Propagules likely to be dispersed unintentionally? Probably No] "Examination of seed, seedling and sapling densities in relation to parent trees revealed a large number of propagules failing to disperse, and in consequence tendencies toward clumped distributions" [Even within native range, seeds are not well dispersed, and are unlikely to be inadvertently dispersed]
702	2012. Gray, M.. Palms: <i>Oncosperma tigillarum</i> . PACSOA (Palm and Cycad Society of Australia), <a href="http://www.pacsoa.org.au/palms/Oncosperma/tigillarum.html">http://www.pacsoa.org.au/palms/Oncosperma/tigillarum.html</a>	[Propagules dispersed intentionally by people? Yes] "A very attractive palm, but due to its requirements, and size, isn't often seen outside tropical gardens." [Yes, but infrequently]
703	1992. Partomihardjo, T./Mirmanto, E./Riswan, S./Whittaker, R.J.. Ecology and Distribution of Nibung ( <i>Oncosperma tigillarum</i> within the Krakatau Islands, Indonesia. <i>Principes</i> . 36(1): 7-17.	[Propagules likely to disperse as a produce contaminant? No evidence.] "The fruits of nibung are globular and about 12 mm in diameter. At first they are dark green but they turn black-purple on ripening (Backer and van der Brink 1968)." [Fruits are small, but not grown with, or likely to contaminate produce]
704	2003. Riffle, R.L./Craft, P.. An Encyclopedia of Cultivated Palms. Timber Press, Portland, OR.	[Propagules adapted to wind dispersal? No] "The fruits are small, rounded and dark purple." [Fleshy-fruited]

705	2006. Hanley, J.R./Mamonto, D./Broadhead, J.. Coastal Forest Rehabilitation Manual for Aceh Province and North Sumatera. FAO Regional Office for Asia and the Pacific, Bangkok	[Propagules water dispersed? Possibly] "Two of the species listed in Table 7 are also common at this level of the shore wherever there is permanent freshwater influence and these are <i>Sonneratia caseolaris</i> with its distinctive tall, thin pneumatophores and the palm <i>Oncosperma tigillarum</i> which is easily recognised by the long spines on the trunk. This palm is also common in freshwater swamps and is only mildly tolerant of saltwater." ... " <i>Oncosperma tigillarum</i> - Freshwater/brackish water channels and swamps" [Distribution suggests fruits or seeds may be dispersed by water]
706	1992. Partomihardjo, T./Mirmanto, E./Riswan, S./Whittaker, R.J.. Ecology and Distribution of Nibung ( <i>Oncosperma tigillarum</i> within the Krakatau Islands, Indonesia. <i>Principes</i> . 36(1): 7-17.	[Propagules bird dispersed? Yes] ""The fruits of nibung are globular and about 12 mm in diameter. At first they are dark green but they turn black-purple on ripening (Backer and van der Brink 1968). Docters van Leeuwen (1936) was of the view that they had been brought to the islands by birds, probably the pigeon <i>Myristiciuora bicolor</i> , which occurred at that time in large numbers."
706	1996. Thornton, I.W.B./Compton, S.G./Wilson, C.N.. The Role of Animals in the Colonization of the Krakatau Islands by Fig Trees ( <i>Ficus</i> species). <i>Journal of Biogeography</i> . 23(4): 577-592.	[Propagules bird dispersed? Yes] "Frugivores brought to the island by the peregrine as prey to be consumed may act as posthumous seed dispersers. In 1991 we found the remains of a green imperial pigeon ( <i>D. aena</i> ) with skull smashed and evidently taken by the peregrine. Associated with the skeleton were about a score of seeds of the palm <i>Oncosperma tigillarum</i> (Jack Ridl., a Krakatau plant that, does not grow on the island" [Confirmation that imperial pigeons consume the fruit & disperse the seeds]
706	2003. Riffle, R.L./Craft, P.. An Encyclopedia of Cultivated Palms. Timber Press, Portland, OR.	[Propagules bird dispersed? Yes] ""The fruits are small, rounded and dark purple." [Fleshy-fruited]
706	2008. Royal Botanic Gardens Kew. Seed Information Database (SID). Version 7.1. <a href="http://data.kew.org/sid/">http://data.kew.org/sid/</a>	[Propagules bird dispersed? Yes] "Animal; Diaspore is eaten intentionally; Direct or experimental observation; (Zona, 2001); Birds.; <i>Ducula aena</i> ; Diaspore=fruit. The fruit is fleshy/juicy."
707	2003. Riffle, R.L./Craft, P.. An Encyclopedia of Cultivated Palms. Timber Press, Portland, OR.	[Propagules dispersed by other animals (externally)? No] "The fruits are small, rounded and dark purple." [No means of external attachment. Adapted for internal dispersal]
708	2003. Riffle, R.L./Craft, P.. An Encyclopedia of Cultivated Palms. Timber Press, Portland, OR.	[Propagules survive passage through the gut? Presumably Yes] "The fruits are small, rounded and dark purple."
801	1992. Partomihardjo, T./Mirmanto, E./Riswan, S./Whittaker, R.J.. Ecology and Distribution of Nibung ( <i>Oncosperma tigillarum</i> within the Krakatau Islands, Indonesia. <i>Principes</i> . 36(1): 7-17.	[Prolific seed production (>1000/m <sup>2</sup> )? No] "Examination of seed, seedling and sapling densities in relation to parent trees revealed a large number of propagules failing to disperse, and in consequence tendencies toward clumped distributions" [Even with limited dispersal, seeds never reach such high densities under parent trees]
802	1995. Whittaker, R.J./Partomihardjo, T./Riswan, S.. Surface and Buried Seed Banks from Krakatau, Indonesia: Implications for the Sterilization Hypothesis. <i>Biotropica</i> . 27(3): 346-354.	[Evidence that a persistent propagule bank is formed (>1 yr)? Possibly No] "The buried soil samples provide some interesting insights into the former vegetation of Panjang and Sertung and the longevity of seeds. The four samples from basal soils had been buried since ca 1930 1933 (Whittaker et al. 1992a) and were between 106 and 175 cm below the surface at the time of sampling (ash has been accumulating intermittently over the intervening period). The 11 species germinating from them would thus appear to have retained viability for at least 60 yr, a time-scale rarely documented for this biome (cf. Garwood 1989)." [Oncosperma tigillarum trees present but absent in seed bank. See Table 2. Page 351]
802	2012. Bioversity International. Species Compendium Database - <i>Oncosperma</i> spp.. <a href="http://www.bioversityinternational.org/databases/species_compendium_database/detail.html?tx_wfqbe_pi1[species_id]=27037">http://www.bioversityinternational.org/databases/species_compendium_database/detail.html?tx_wfqbe_pi1[species_id]=27037</a>	[Evidence that a persistent propagule bank is formed (>1 yr)? Possibly No] "Storage behaviour: De Leon (De Leon, 1961) classified this genus in the short-lived seed class."
803	2012. WRA Specialist. Personal Communication.	[Well controlled by herbicides? Unknown] No information on herbicide efficacy or chemical control of this species
804	2003. Riffle, R.L./Craft, P.. An Encyclopedia of Cultivated Palms. Timber Press, Portland, OR.	[Tolerates, or benefits from, mutilation, cultivation, or fire? Possibly] "The palm resprouts if frozen to the ground and if the soil does not freeze, but this practice is futile as the great beauty of the large clumps is lost and the plant dies out if subjected to such stress in consecutive winters." [Ability to resprout after freezing suggest palm may be able to resprout after cutting back]
805	2012. WRA Specialist. Personal Communication.	[Effective natural enemies present locally (e.g. introduced biocontrol agents)? Unknown]

## Summary of Risk Traits:

### High Risk / Undesirable Traits:

- Naturalized in Tahiti
- Spiny trunks
- Shade tolerant
- Tolerates many soil types
- May form dense thickets
- Able to spread by suckering
- Bird-dispersed seeds (Possibly pigs, rats, & mongoose in Hawaii)

### Low Risk / Desirable Traits:

- May only grow in low, humid, tropical conditions
- Ornamental Uses
- Invasive impacts not documented or unspecified in Tahiti