

Key Words: Low Risk, Fruit Tree, Edible Fruit, Slow-growing, Bird-dispersed, Zoochorous

Family: *Sapindaceae*

Taxon: *Talisia esculenta*

Synonym: *Sapindus esculenta* A. St.-Hil. (basionym) **Common Name:** pitomba

Questionnaire Status:	current 20090513 Assessor Approved	Assessor:	Chuck Chimera	Designation:	L
Status:		Data Entry Person:	Chuck Chimera	WRA Score	-1
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		
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		n
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		
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	n
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	n
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	y=1, n=-1	n
706	Propagules bird dispersed	y=1, n=-1	y
707	Propagules dispersed by other animals (externally)	y=1, n=-1	
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	n
803	Well controlled by herbicides	y=-1, n=1	
804	Tolerates, or benefits from, mutilation, cultivation, or fire	y=1, n=-1	y
805	Effective natural enemies present locally (e.g. introduced biocontrol agents)	y=-1, n=1	

Designation: L

WRA Score -1

Supporting Data:

101	2008. Janick, J./Paull, R.E.. The Encyclopedia of Fruit & Nuts. Cabi Publishing, Wallingford, UK	[Is the species highly domesticated? No evidence]
102	2012. WRA Specialist. Personal Communication.	NA
103	2012. WRA Specialist. Personal Communication.	NA
201	2003. Acevedo-Rodríguez, P.. Melicocceae (Sapindaceae): Melicoccus and Talisia. Flora Neotropica. 87: 1-178.	[Species suited to tropical or subtropical climate(s) - 2-High] "Distribution and Ecology. (Fig 45) Brazil, Paraguay, and Bolivia. In gallery, terra firme, varzea, caatinga, and dry forests, island forest surrounded by savanna, and disturbed secondary forest, also widely cultivated for its edible fruits (with fleshy testa)."
202	2003. Acevedo-Rodríguez, P.. Melicocceae (Sapindaceae): Melicoccus and Talisia. Flora Neotropica. 87: 1-178.	[Quality of climate match data 2-High]
203	1986. FAO. Food and fruit-bearing forest species 3: Examples from Latin America. Food & Agriculture Organisation of the United Nations, Rome, Italy	[Broad climate suitability (environmental versatility)? Potentially Yes] "Talisia esculenta occurs on a wide range of soils, except those that are seasonally flooded, substantially rocky or sandy, and under a wide range of climatic conditions."
203	2012. Tropicos.org. Tropicos [Online Database]. Missouri Botanical Garden, http://www.tropicos.org/	[Broad climate suitability (environmental versatility)? Possibly] Collected from 100 m elevation (22°16'09"S 057°33'11"W) to 1000 m (14°46'00"S 061°02'09"W)
204	2008. Janick, J./Paull, R.E.. The Encyclopedia of Fruit & Nuts. Cabi Publishing, Wallingford, UK	[Native or naturalized in regions with tropical or subtropical climates? Yes] "They are both native to tropical climates and adapt to subtropical areas."
205	1986. FAO. Food and fruit-bearing forest species 3: Examples from Latin America. Food & Agriculture Organisation of the United Nations, Rome, Italy	[Does the species have a history of repeated introductions outside its natural range? No] "T. esculenta is cultivated occasionally and only on a small scale in gardens."
301	2012. Randall, R.P.. A Global Compendium of Weeds. 2nd Edition. Department of Agriculture and Food, Western Australia	[Naturalized beyond native range? No evidence]
302	2012. Randall, R.P.. A Global Compendium of Weeds. 2nd Edition. Department of Agriculture and Food, Western Australia	[Garden/amenity/disturbance weed? No evidence]
303	2012. Randall, R.P.. A Global Compendium of Weeds. 2nd Edition. Department of Agriculture and Food, Western Australia	[Agricultural/forestry/horticultural weed? No evidence]
304	2012. Randall, R.P.. A Global Compendium of Weeds. 2nd Edition. Department of Agriculture and Food, Western Australia	[Environmental weed? No evidence]
305	2012. Randall, R.P.. A Global Compendium of Weeds. 2nd Edition. Department of Agriculture and Food, Western Australia	[Congeneric weed? No evidence]
401	2003. Acevedo-Rodríguez, P.. Melicocceae (Sapindaceae): Melicoccus and Talisia. Flora Neotropica. 87: 1-178.	[Produces spines, thorns or burrs? No] "Treelet or tree, 5-10 (20) m tall; trunk to 50 cm in diam.; bark brownish, flaky. Twigs nearly terete, glabrous, lenticellate with age. Leaves paripinnate or less often imparipinnate; distal process minute, filiform, 4 - 5 mm long, early deciduous leaving a truncate base; leaflets (2) 6 to 8, opposite to alternate, elliptic or less often oblong-elliptic, lanceolate-elliptic or oblanceolate, 4.5-15 x 1.7-7.5 cm, chartaceous, the adaxial surface slightly shiny, glabrous, the abaxial surface glabrous or puberulous, the venation brochidodromous, prominulous on both surfaces, tertiary veins reticulate, the margins entire, undulate, the apex obtuse, acute, obtusely acuminate or sometimes emarginate, the base obtuse, rounded or rarely truncate, slightly asymmetrical; petiolules slender, 1-3 mm long, puberulent or pubescent, usually drying dark brown; rachis (1) 3.5-13 cm long, obtusely angled, puberulent or pubescent; petioles (3) 4.5-6.5 (9) cm long, slightly flattened along adaxial surface, thickened and darker at the very base, with same indumentum as the rachis"
402	2012. WRA Specialist. Personal Communication.	[Allelopathic? Unknown]
403	2003. Acevedo-Rodríguez, P.. Melicocceae (Sapindaceae): Melicoccus and Talisia. Flora Neotropica. 87: 1-178.	[Parasitic? No] "Treelet or tree, 5-10 (20) m tall" [Sapindaceae]

404	2012. WRA Specialist. Personal Communication.	[Unpalatable to grazing animals? Unknown]
405	2003. Acevedo-Rodríguez, P.. Melicocceae (Sapindaceae): Melicoccus and Talisia. Flora Neotropica. 87: 1-178.	[Toxic to animals?] "A few species of Talisia (T. esculenta, T. furfuracea, T. hexaphylla, T. squarrosa, and T. stricta) are reported as being used as piscicides in South America (Acevedo-Rodríguez, 1990)."
406	2008. Janick, J./Paull, R.E.. The Encyclopedia of Fruit & Nuts. Cabi Publishing, Wallingford, UK	[Host for recognized pests and pathogens? No] [Host for recognized pests and pathogens?] "Leaf-cutter ants (Atta sexdens) are the only important pest that attacks these species, cutting the leaves. Talisia esculenta is cited as host of the citrus white-fly (Orthezia insignis). Information on diseases is unavailable, as the crop is limited to family orchards."
407	1986. FAO. Food and fruit-bearing forest species 3: Examples from Latin America. Food & Agriculture Organisation of the United Nations, Rome, Italy	[Causes allergies or is otherwise toxic to humans? No evidence] "The edible part of the fruit is the whitish fleshy aril that covers the seeds. The flavour is sweet, slightly acid and very agreeable. The fruit (aril) is consumed only in natura but it can be used to prepare a pleasant drink. The seeds are very astringent and when cooked are used against chronic diarrhoea (Le Cointe, 1947) The tree is suitable for square and street arborization."
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 evidence]
408	2003. Acevedo-Rodríguez, P.. Melicocceae (Sapindaceae): Melicoccus and Talisia. Flora Neotropica. 87: 1-178.	[Creates a fire hazard in natural ecosystems? No evidence] "Distribution and Ecology. (Fig 45) Brazil, Paraguay, and Bolivia. In gallery, terra firme, varzea, caatinga, and dry forests, island forest surrounded by savanna, and disturbed secondary forest, also widely cultivated for its edible fruits (with fleshy testa)." [A component of dry forests, but no evidence of increased fire hazards associated with this species]
409	2010. Akinnifesi, F.K./Sileshi, G./da Costa, J./de Moura, E.G./da Silva, R.F./Ajayi, O.C./Linhares, J.F.P./Akinnifesi, A.I./de Araujo, M./Rodrigues, M.A.I.. Floristic composition and canopy structure of home-gardens in São Luís city, Maranhão State, Braz	[Is a shade tolerant plant at some stage of its life cycle? Presumably Yes. Present as canopy emergent and in understory] "Table 6. Percentage contribution of different tree species to the canopy and height classes: (A) Emergent (>15 m height); (B) dominant (10 - 15 m); (C) co-dominant (5 - 10 m); (D) understory (2 - 5 m); and (E) seedling (<2 m)." [Talisia esculenta recorded in (D) understory (2 - 5 m)]
410	1986. FAO. Food and fruit-bearing forest species 3: Examples from Latin America. Food & Agriculture Organisation of the United Nations, Rome, Italy	[Tolerates a wide range of soil conditions? Yes] "Talisia esculenta occurs on a wide range of soils, except those that are seasonally flooded, substantially rock or sandy, and under a wide range of climatic conditions."
411	2003. Acevedo-Rodríguez, P.. Melicocceae (Sapindaceae): Melicoccus and Talisia. Flora Neotropica. 87: 1-178.	[Climbing or smothering growth habit? No] "Treelet or tree, 5-10 (20) m tall"
412	2000. Daly, D.C./Mitchell, J.D.. Lowland vegetation of tropical South America -- an overview. Pp. 391-454. In: D. Lentz, ed. Imperfect Balance: Landscape Transformations in the pre-Columbian Americas. Columbia University Press, New York	[Forms dense thickets? No evidence] "In the southern Pantanal, semi deciduous forests with a canopy 18-21 m high often contains a dense understory of "acuri" palms (Attalea phalerata). Typical trees of these forests are Myracrodruon urundeuva, Astronium fraxinifolia, Talisia esculenta..."
412	2003. Acevedo-Rodríguez, P.. Melicocceae (Sapindaceae): Melicoccus and Talisia. Flora Neotropica. 87: 1-178.	[Forms dense thickets? No evidence] "Distribution and Ecology. (Fig 45) Brazil, Paraguay, and Bolivia. In gallery, terra firme, varzea, caatinga, and dry forests, island forest surrounded by savanna, and disturbed secondary forest, also widely cultivated for its edible fruits (with fleshy testa)."
501	2003. Acevedo-Rodríguez, P.. Melicocceae (Sapindaceae): Melicoccus and Talisia. Flora Neotropica. 87: 1-178.	[Aquatic? No] "In gallery, terra firme, varzea, caatinga, and dry forests, island forest surrounded by savanna, and disturbed secondary forest..." [Terrestrial]
502	2003. Acevedo-Rodríguez, P.. Melicocceae (Sapindaceae): Melicoccus and Talisia. Flora Neotropica. 87: 1-178.	[Grass? No] Sapindaceae
503	2003. Acevedo-Rodríguez, P.. Melicocceae (Sapindaceae): Melicoccus and Talisia. Flora Neotropica. 87: 1-178.	[Nitrogen fixing woody plant? No] Sapindaceae
504	2003. Acevedo-Rodríguez, P.. Melicocceae (Sapindaceae): Melicoccus and Talisia. Flora Neotropica. 87: 1-178.	[Geophyte (herbaceous with underground storage organs -- bulbs, corms, or tubers)? No] "Treelet or tree, 5-10 (20) m tall; trunk to 50 cm in diam.; bark brownish, flaky"
601	2003. Acevedo-Rodríguez, P.. Melicocceae (Sapindaceae): Melicoccus and Talisia. Flora Neotropica. 87: 1-178.	[Evidence of substantial reproductive failure in native habitat? No evidence]

602	2008. Janick, J./Paull, R.E.. The Encyclopedia of Fruit & Nuts. Cabi Publishing, Wallingford, UK	[Produces viable seed? Yes] "The species can be propagated by seeds."
603	2003. Acevedo-Rodríguez, P.. Melicocceae (Sapindaceae): Melicoccus and Talisia. Flora Neotropica. 87: 1-178.	[Hybridizes naturally? Unknown] "A continental Neotropical genus of 52 species." [No mention of hybridization]
604	2008. Janick, J./Paull, R.E.. The Encyclopedia of Fruit & Nuts. Cabi Publishing, Wallingford, UK	[Self-compatible or apomictic? No] "Talisia esculenta and T. olivaeformis are dioecious, with unisexual male and female flowers on different plants. Hence they outcross and the offspring are variable."
605	2010. Kimmel, T.M. et al.. Pollination and seed dispersal modes of woody species of 12-year-old secondary forest in the Atlantic Forest region of Pernambuco, NE Brazil. Flora - Morphology, Distribution, Functional Ecology of Plants. 205(8): 540–547.	[Requires specialist pollinators? No] "Table .1 Total number of fertile and infertile individuals, diameter groups, pollination and dispersal modes of woody species occurring in two capoeiras, Usina Sao Jose, Zonada Mata, state of Pernambuco." [Talisia esculenta - gen=generalist pollination]
606	1986. FAO. Food and fruit-bearing forest species 3: Examples from Latin America. Food & Agriculture Organisation of the United Nations, Rome, Italy	[Reproduction by vegetative fragmentation? No] "Propagation is only by seeds." [But may resprout from root suckers. See 8.04]
607	1986. FAO. Food and fruit-bearing forest species 3: Examples from Latin America. Food & Agriculture Organisation of the United Nations, Rome, Italy	[Minimum generative time (years)? 4+] "The only available information about growth comes from a plant sown 15 years ago, now 10 m high but not yet flowering."
701	2003. Acevedo-Rodríguez, P.. Melicocceae (Sapindaceae): Melicoccus and Talisia. Flora Neotropica. 87: 1-178.	[Propagules likely to be dispersed unintentionally (plants growing in heavily trafficked areas)? No evidence] "Fruits ovoid to nearly rounded, minutely puberulent and yellow when ripe, 2-3 cm long, shortly apiculate at apex, the pericarp ca. 1 mm thick Seeds 1-2 per fruit, ellipsoid, 1.7-2 cm long, with a fleshy, clear white cover." [Fruits & seeds lack means of external attachment]
702	2008. Janick, J./Paull, R.E.. The Encyclopedia of Fruit & Nuts. Cabi Publishing, Wallingford, UK	[Propagules dispersed intentionally by people? Yes] "Talisia esculenta is a decorative plant, whose fruit attract birds, and that can be used in reforestation. The wood is heavy (density 1.10 g/cm ³), hard, with average texture, reverse grain and low resistance to rot. It is used in civil construction, carpentry and box making."
703	2003. Acevedo-Rodríguez, P.. Melicocceae (Sapindaceae): Melicoccus and Talisia. Flora Neotropica. 87: 1-178.	[Propagules likely to disperse as a produce contaminant? No evidence] "Fruits ovoid to nearly rounded, minutely puberulent and yellow when ripe, 2-3 cm long, shortly apiculate at apex, the pericarp ca. 1 mm thick Seeds 1-2 per fruit, ellipsoid, 1.7-2 cm long, with a fleshy, clear white cover." [Unlikely as fruits and seeds are relatively large, and seeds are recalcitrant]
704	2003. Acevedo-Rodríguez, P.. Melicocceae (Sapindaceae): Melicoccus and Talisia. Flora Neotropica. 87: 1-178.	[Propagules adapted to wind dispersal? No] "Fruits ovoid to nearly rounded, minutely puberulent and yellow when ripe, 2-3 cm long, shortly apiculate at apex, the pericarp ca. 1 mm thick Seeds 1-2 per fruit, ellipsoid, 1.7-2 cm long, with a fleshy, clear white cover. Embryo with cotyledons superimposed, of equal size."
705	2003. Acevedo-Rodríguez, P.. Melicocceae (Sapindaceae): Melicoccus and Talisia. Flora Neotropica. 87: 1-178.	[Propagules water dispersed? No evidence] "In gallery, terra firme, varzea, caatinga, and dry forests, island forest surrounded by savanna, and disturbed secondary forest, also widely cultivated for its edible fruits (with fleshy testa)." [Fruit may be buoyant, but adaptations are for vertebrate consumption and dispersal and distribution does not suggest water as a likely dispersal vector]
706	1998. Juniper, T./Parr, M.. Parrots: A Guide to Parrots of the World. Yale University Press, New Haven, CT	[Propagules bird dispersed? Yes] Blue-Throated Conure - <i>Pyrrhura cruentata</i> " ... "Food plants include Talisia esculenta..."
706	2003. Acevedo-Rodríguez, P.. Melicocceae (Sapindaceae): Melicoccus and Talisia. Flora Neotropica. 87: 1-178.	[Propagules bird dispersed? Yes] "Fruits of T. esculenta, according to Lorenzi (1992), are eaten by birds."
706	2008. Janick, J./Paull, R.E.. The Encyclopedia of Fruit & Nuts. Cabi Publishing, Wallingford, UK	[Propagules bird dispersed? Yes] "Talisia esculenta is a decorative plant, whose fruit attract birds..."
707	2003. Acevedo-Rodríguez, P.. Melicocceae (Sapindaceae): Melicoccus and Talisia. Flora Neotropica. 87: 1-178.	[Propagules dispersed by other animals (externally)? Unknown] "Fruits ovoid to nearly rounded, minutely puberulent and yellow when ripe, 2-3 cm long, shortly apiculate at apex, the pericarp ca. 1 mm thick Seeds 1-2 per fruit, ellipsoid, 1.7-2 cm long, with a fleshy, clear white cover." [No adaptations for external dispersal, but rodents or other frugivorous mammals may carry fruit away for consumption and/or seed predation]

708	1983. Schaller, G.B.. Mammals and their biomass on a Brazilian ranch. Arquivos de Zoologia. 31(1): 1-36.	[Propagules survive passage through the gut? Presumably Yes] "The two peccary species appear to have similar food habits in that both eat predominantly fruits and seeds. Ficus, Attalea, and Astrocaryum were commonly eaten fruits and so was Talisia esculenta in season." ... "Other fruits are seasonal. For example, Talisia esculenta ripens only in March and April, and at that time cattle, tapir, and peccaries, among others, eat the fallen fruit. "
708	2000. Fragoso, J.M.V./Huffman, J.M.. Seed-Dispersal and Seedling Recruitment Patterns by the Last Neotropical Megafaunal Element in Amazonia, the Tapir. Journal of Tropical Ecology. 16(3): 369-385.	[Propagules survive passage through the gut? Presumably Yes] "Figure4 . The percent frequency of occurrence of 16 infrequently encountered seed species in faeces (all samples) per month, from October 1991 - November 1992" [Talisia seeds present]
708	2003. Acevedo-Rodríguez, P.. Melicocceae (Sapindaceae): Melicoccus and Talisia. Flora Neotropica. 87: 1-178.	[Propagules survive passage through the gut? Presumably Yes] "Fruits of T. esculenta, according to Lorenzi (1992), are eaten by birds."
708	2010. Kimmel, T.M. et al.. Pollination and seed dispersal modes of woody species of 12-year-old secondary forest in the Atlantic Forest region of Pernambuco, NE Brazil. Flora - Morphology, Distribution, Functional Ecology of Plants. 205(8): 540–547.	[Propagules survive passage through the gut? Presumably Yes] "The diaspores of three species were rather likely to attract mainly mammals and reptiles: Annona sp., Inga ingoides, Talisia esculenta..."
801	1986. FAO. Food and fruit-bearing forest species 3: Examples from Latin America. Food & Agriculture Organisation of the United Nations, Rome, Italy	[Prolific seed production (>1000/m2)? No] "Fruit a subglobose or ovoid, apiculate berry, 3 cm long, 2.5 cm in diameter, yellowish-green with coriaceous exocarp; seeds 1-2, enveloped by a white, fleshy, edible aril, cotyledons thick, superposed." ... "The fruits grow in compact bunches of 10 to 25 units and they must be collected like that to be sold in the market." ... "Although there is no precise information, the production of an adult plant in good condition may be estimated at about 100 bunches."
802	2008. Janick, J./Paull, R.E.. The Encyclopedia of Fruit & Nuts. Cabi Publishing, Wallingford, UK	[Evidence that a persistent propagule bank is formed (>1 yr)? No] "The seeds are recalcitrant and should be sown fresh (without drying)."
803	2003. Acevedo-Rodríguez, P.. Melicocceae (Sapindaceae): Melicoccus and Talisia. Flora Neotropica. 87: 1-178.	[Well controlled by herbicides? Unknown] No information on herbicide efficacy or chemical control of this species
804	2006. Vieira, D.L.M./Scariot, A./Sampaio, A.B./Holl, K.D.. Tropical dry-forest regeneration from root suckers in Central Brazil. Journal of Tropical Ecology. 22: 353–357.	[Tolerates, or benefits from, mutilation, cultivation, or fire? Yes] "The ability to resprout after disturbances overcomes these barriers, as those individuals bypass the seed stage and have more vigorous shoots than seedlings (Bond & Midgley 2001, Kammesheidt 1999, Kennard et al. 2002). Resprouting is a particularly important recovery mechanism in tropical dry forests (reviewed in Vieira & Scariot 2006). There are a number of reasons why resprouting may be more important in dry forests than in rain forests, including slower decay rates of trunk bases (Ewel 1980), or adaptation of plants to drought (Bond & Midgley 2001, Sampaio et al. 1993)." ... "Table 1. Species resprouting after ploughing in an early successional site, a 10-y-old pasture, and a 25-y-old pasture, in a dry-forest region of central Brazil. Individuals were surveyed in 30 plots of 10 x 10 m (3000 m2) in each area. Trees (> 5 cm dbh, 2.4 ha sampled) observed in an intact forest fragment adjacent to the 25-y-old pasture are shown. Values indicate relative abundance (%)." [Talisia esculenta occurs in forest fragments and 25 year old pasture]
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

- Thrives in tropical climates
- Shade tolerant
- Tolerates many soil conditions (and potentially able to exploit many different habitat types)
- Dispersed by birds, frugivorous mammals and humans
- Able to resprout from root suckers

Low Risk / Desirable Traits

- No evidence of naturalization or invasiveness to date
- Unarmed (no spines, thorns or burrs)
- Non-toxic to humans
- Edible fruit (fleshy aril)
- Dioecious (requires male and female trees to set seed)
- Long time to maturity (possibly 15 years)
- Relatively large seeds unlikely to be inadvertently dispersed
- Seeds recalcitrant and unlikely to form a persistent seed bank