Key Words: Low Risk, Ornamental Tree, Edible Fruit, Shade Tolerant, Bird/Mammal-Dispersed

Family: ***Chrysobalanaceae***

Taxon: ***Licania platypus***

Synonym: *Moquilea platypus Hemsl. (basionym)*

Common Name: Sansapote
monkey apple

Questionaire : current 20090513
Status: Assessor Approved

Assessor: Chuck Chimera
Data Entry Person: Chuck Chimera

Designation: L
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**	**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**	**?**
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**	**n**
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**	
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**	
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**	
706	**Propagules bird dispersed**	**y=1, n=-1**	
707	**Propagules dispersed by other animals (externally)**	**y=1, n=-1**	**y**
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**	
805	**Effective natural enemies present locally (e.g. introduced biocontrol agents)**	**y=-1, n=1**	

Designation: L **WRA Score** **-1**

Supporting Data:

101	1996. Campbell, R.J.. South American fruits deserving further attention. p. 431-439. In: J. Janick (ed.), Progress in new crops.. ASHS Press, Arlington, VA	[Is the species highly domesticated? No evidence] "Martin et al. (1977) considered this fruit to have little potential for further commercialization. However, the fruit are large and can withstand handling, making them a candidate as a fresh fruit for the lowland humid and seasonally dry tropics. In order to improve the commercialization of this fruit, a concerted effort into the selection of superior cultivars would be needed, as well as research on production, and handling procedures."
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	1987. Morton, J.F.. Fruits of warm climates - Sansapote (Licania platypus). J.F. Morton, Miami, FL http://www.hort.purdue.edu/newcrop/morton/sansapote.html	[Species suited to tropical or subtropical climate(s) 2-High] "The sansapote grows wild in dense forests from southern Mexico to Panama, on both coasts, and also in northern Colombia."
202	1987. Morton, J.F.. Fruits of warm climates - Sansapote (Licania platypus). J.F. Morton, Miami, FL http://www.hort.purdue.edu/newcrop/morton/sansapote.html	[Quality of climate match data 2-High]
203	1987. Martin, F.W./Campbell, C.W./Puberté, R.M.. Perennial Edible Fruits of the Tropics: An Inventory. Agriculture Handbook No. 642. U.S. Department of Agriculture, Washington, DC	[Broad climate suitability (environmental versatility)? No] "Cultural requirements: Hot tropical lowlands, seasonally dry."
203	1987. Morton, J.F.. Fruits of warm climates - Sansapote (Licania platypus). J.F. Morton, Miami, FL http://www.hort.purdue.edu/newcrop/morton/sansapote.html	[Broad climate suitability (environmental versatility)? No] "This is a tropical species limited to low elevations–not more than 2,000 ft (600 m) above sea-level."
203	2008. Janick, J./Paull, R.E.. The encyclopedia of fruit & nuts. Cabi Publishing, Wallingford, UK	[Broad climate suitability (environmental versatility)? No] "It is readily killed by frost and prefers annual rainfall above 1500 mm."
204	1987. Morton, J.F.. Fruits of warm climates - Sansapote (Licania platypus). J.F. Morton, Miami, FL http://www.hort.purdue.edu/newcrop/morton/sansapote.html	[Native or naturalized in regions with tropical or subtropical climates? Yes] "The sansapote grows wild in dense forests from southern Mexico to Panama, on both coasts, and also in northern Colombia."
205	1987. Morton, J.F.. Fruits of warm climates - Sansapote (Licania platypus). J.F. Morton, Miami, FL http://www.hort.purdue.edu/newcrop/morton/sansapote.html	[Does the species have a history of repeated introductions outside its natural range? Hawaii and Philippines] "It was introduced into the Philippines in the early 1900's and into Hawaii only about 25 years ago. In the spring of 1913, the United States Department of Agriculture received seeds from the Department of Agriculture in San José, Costa Rica (S.P.I. #34915)."
205	2005. Imada, C.T./Staples, G.W./Herbst, D.R.. Annotated Checklist of Cultivated Plants of Hawai'i. The Bishop Museum, http://www2.bishopmuseum.org/HBS/botany/cultivatedplants/	[Does the species have a history of repeated introductions outside its natural range? Hawaiian Islands. Possibly limited distribution] "Locations: Harold L. Lyon Arboretum Pacific Tropical Botanical Garden (now National Tropical Botanical Garden) Waimea Arboretum & Botanical Garden"
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]
301	2012. Wagner, W.L./Herbst, D.R./Khan, N./Flynn, T.. Hawaiian Vascular Plant Updates: A Supplement to the Manual of the Flowering Plants of Hawai`i & Hawai`i's Ferns & Fern Allies. http://botany.si.edu/pacificislandbiodiversity/hawaianflora/supplement.htm	[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] Licania arborea listed as naturalized
401	1987. Morton, J.F.. Fruits of warm climates - Sansapote (Licania platypus). J.F. Morton, Miami, FL http://www.hort.purdue.edu/newcrop/morton/sansapote.html	[Produces spines, thorns or burrs? No] "The handsome tree is erect, stately, reaching 100 to 160 ft (30-50 m) in height; has a rounded crown of thick branches, heavily foliaged, and dark purplish or brown bark dotted with tiny white or reddish white lenticels. It is sometimes slightly buttressed. The deciduous leaves are alternate, occasionally spiraled, elliptic- to narrow lanceolate, pointed at both ends; 4 to 12 in (10-30 cm) long, 1 1/4 to 3 1/2 in (3-9 cm) wide, with thick midrib, indented above and prominent beneath. New foliage is bronze or red-purple and very showy. "
402	1987. Morton, J.F.. Fruits of warm climates - Sansapote (Licania platypus). J.F. Morton, Miami, FL http://www.hort.purdue.edu/newcrop/morton/sansapote.html	[Allelopathic? No evidence]
402	2008. Janick, J./Paull, R.E.. The encyclopedia of fruit & nuts. Cabi Publishing, Wallingford, UK	[Allelopathic? No evidence]
403	1987. Morton, J.F.. Fruits of warm climates - Sansapote (Licania platypus). J.F. Morton, Miami, FL http://www.hort.purdue.edu/newcrop/morton/sansapote.html	[Parasitic? No] "The handsome tree is erect, stately, reaching 100 to 160 ft (30-50 m) in height" [Chrysobalanaceae]
404	. Love, B./Spaner, D.. A Survey of Small-Scale Farmers Using Trees in Pastures in Herrera Province, Panama. Journal of Sustainable Forestry. 20(3): 37-65.	[Unpalatable to grazing animals? Fruit palatable. Foliage unknown] "Table 8. Fodder species mentioned by small scale pasture owners as being purposefully retained in pastures or observed being consumed by cattle in Herrera province, Panama."
404	1980. Milton, K.. The foraging strategy of howler monkeys: a study in primate economics. Columbia University Press, New York	[Unpalatable to grazing animals? Leaves consumed by howler monkeys] "Table 4.8. Food Species Analysis by Study Area" [Licania platypus - Categories Eaten - L (Leaves)]
405	2003. Prance, G.T./Sothers, C.A.. Chrysobalanaceae 1: Chrysobalanus to Parinari. Species Plantarum: Flora of the World. 9: 1-319.	[Toxic to animals? No evidence] "This species has an edible fruit which is much sought after by birds and animals, but little eaten by man, but was apparently quite important in Pre-Columbian times in Mexico (H.Ochoterena-Booth & H.F.Olvera, 1922)."
405	2008. Janick, J./Paull, R.E.. The encyclopedia of fruit & nuts. Cabi Publishing, Wallingford, UK	[Toxic to animals? No evidence]
405	2008. Wagstaff, D.J.. International poisonous plants checklist: an evidence-based reference. CRC Press, Boca Raton, FL	[Toxic to animals? No evidence]
406	2008. Janick, J./Paull, R.E.. The encyclopedia of fruit & nuts. Cabi Publishing, Wallingford, UK	[Host for recognized pests and pathogens? Unknown] No information
407	1987. Morton, J.F.. Fruits of warm climates - Sansapote (Licania platypus). J.F. Morton, Miami, FL http://www.hort.purdue.edu/newcrop/morton/sansapote.html	[Causes allergies or is otherwise toxic to humans? Fruit may cause illness] "The fruit is eaten raw when better fruits are not available. According to Standley, it has the reputation of being unwholesome, causing fever and other illnesses."
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	1950. Allen, C.K.. Flora of Panama. Part V. Fascicle II. Annals of the Missouri Botanical Garden. 37(2): 121-314.	[Creates a fire hazard in natural ecosystems? No evidence] "Southern Mexico to Panama; reported from Colombia. In lowland forests, often at elevations less than 400 meters, often cultivated for ornament."

409	1999. Tobin, M.F./Lopez, O.R./Kursar, T.A.. Responses of Tropical Understory Plants to a Severe Drought: Tolerance and A voidance of Water Stress. Biotropica. 31(4): 570-578.	[Is a shade tolerant plant at some stage of its life cycle? Yes] "The following six shade-tolerant species were chosen for this study because of the large variation in the longevity of their leaves (species after Croat 1978): the shrub Hybanthus prunifolius (Schult.) Schultze (Violaceae), the shrub Psychotria horizontalis Sw. (Rubiaceae), the tree Alseis blackiana Hems!. (Rubiaceae), the treelet Swartzia simplex (Sw.) Spreng. (Caesalpinioideae), the treelet Ouratea lucens (H.B.K.) Engler in Mart. (Ochnaceae), and the tree Licania platypus (Hems!.) Fritsch (Chrysobalanaceae)."
410	2008. Janick, J./Paull, R.E.. The encyclopedia of fruit & nuts. Cabi Publishing, Wallingford, UK	[Tolerates a wide range of soil conditions? Yes] "It grows in a variety of soils as long as they have good drainage."
411	1987. Morton, J.F.. Fruits of warm climates - Sansapote (Licania platypus). J.F. Morton, Miami, FL http://www.hort.purdue.edu/newcrop/morton/sansapote.html	[Climbing or smothering growth habit? No] "The handsome tree is erect, stately, reaching 100 to 160 ft (30-50 m) in height"
412	2008. Janick, J./Paull, R.E.. The encyclopedia of fruit & nuts. Cabi Publishing, Wallingford, UK	[Forms dense thickets? No evidence] "It occurs as a few isolated clumps of trees - semi-wild."
501	1987. Morton, J.F.. Fruits of warm climates - Sansapote (Licania platypus). J.F. Morton, Miami, FL http://www.hort.purdue.edu/newcrop/morton/sansapote.html	[Aquatic? No] "The sansapote grows wild in dense forests from southern Mexico to Panama, on both coasts, and also in northern Colombia."
502	2012. USDA ARS National Genetic Resources Program. Germplasm Resources Information Network - (GRIN). http://www.ars-grin.gov/cgi-bin/npgs/html/index.pl	[Grass? No] Chrysobalanaceae
503	2012. USDA ARS National Genetic Resources Program. Germplasm Resources Information Network - (GRIN). http://www.ars-grin.gov/cgi-bin/npgs/html/index.pl	[Nitrogen fixing woody plant? No] Chrysobalanaceae
504	1987. Morton, J.F.. Fruits of warm climates - Sansapote (Licania platypus). J.F. Morton, Miami, FL http://www.hort.purdue.edu/newcrop/morton/sansapote.html	[Geophyte (herbaceous with underground storage organs -- bulbs, corms, or tubers)? No] "The handsome tree is erect, stately, reaching 100 to 160 ft (30-50 m) in height;"
601	1978. Croat, T.B.. Flora of Barro Colorado Island. Stanford University Press, Stanford, CA	[Evidence of substantial reproductive failure in native habitat? No evidence] "Frequent in the forest, especially the old forest. Flowers principally in the dry season, especially from February to April."
601	2003. Prance, G.T./Sothers, C.A.. Chrysobalanaceae 1: Chrysobalanus to Parinari. Species Plantarum: Flora of the World. 9: 1-319.	[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 tree is propagated by seed, which germinate within a month of sowing and then can keep their viability for several months."
603	2003. Prance, G.T./Sothers, C.A.. Chrysobalanaceae 1: Chrysobalanus to Parinari. Species Plantarum: Flora of the World. 9: 1-319.	[Hybridizes naturally? Unknown] No information
604	1988. Prance, G.T./White, F.. The Genera of Chrysobalanaceae: A Study in Practical and Theoretical Taxonomy and Its Relevance to Evolutionary Biology. Philosophical Transactions of the Royal Society of London. Series B, BiologicalSciences. 320(1197): 1-18	[Self-compatible or apomictic? Unknown]
605	1987. Morton, J.F.. Fruits of warm climates - Sansapote (Licania platypus). J.F. Morton, Miami, FL http://www.hort.purdue.edu/newcrop/morton/sansapote.html	[Requires specialist pollinators? No evidence] "The abundant, fragrant flowers, in broad terminal, branched panicles 4 to 14 in (10-35 cm) long, are small and densely hairy with recurved petals and numerous protruding stamens. Only 1 to 3 fruits develop from each particle."
605	1988. Prance, G.T./White, F.. The Genera of Chrysobalanaceae: A Study in Practical and Theoretical Taxonomy and Its Relevance to Evolutionary Biology. Philosophical Transactions of the Royal Society of London. Series B, BiologicalSciences. 320(1197): 1-18	[Requires specialist pollinators? No] "Maranthes. The small flowers of Licania, Exellodendron, Parinari and Magnistipula butayei are visited by bees."

605	2008. Janick, J./Paull, R.E.. The encyclopedia of fruit & nuts. Cabi Publishing, Wallingford, UK	[Requires specialist pollinators? No] "The flowers are insect pollinated."
606	2008. Janick, J./Paull, R.E.. The encyclopedia of fruit & nuts. Cabi Publishing, Wallingford, UK	[Reproduction by vegetative fragmentation? No evidence] "The tree is propagated by seed, which germinate within a month of sowing and then can keep their viability for several months."
607	1987. Martin, F.W./Campbell, C.W./Puberté, R.M.. Perennial Edible Fruits of the Tropics: An Inventory. Agriculture Handbook No. 642. U.S. Department of Agriculture, Washington, DC	[Minimum generative time (years)? 10+] "Description: Tree to 30 m. Propagation by seed. Fruit production in 10 years. Flowers November- December. Fruit matures in about 250 days. Fruit oblong, 15 cm long, 900 g; external color greenish brown, internal orange yellow."
607	2008. Janick, J./Paull, R.E.. The encyclopedia of fruit & nuts. Cabi Publishing, Wallingford, UK	[Minimum generative time (years)? 10+] "The juvenile period can be up to 10-12 years."
701	1987. Morton, J.F.. Fruits of warm climates - Sansapote (Licania platypus). J.F. Morton, Miami, FL http://www.hort.purdue.edu/newcrop/morton/sansapote.html	[Propagules likely to be dispersed unintentionally (plants growing in heavily trafficked areas)? No evidence] "The obovoid or pyriform. fruit, 5 to 8 in (13 20 cm) long, 4 to 5 1/2 in (10-14 cm) wide, has a thin, dark-brown or reddish, warty rind covered with white lenticels. The flesh, somewhat pumpkin-scented, is yellow or orange-yellow, soft, fibrous, dry or juicy and of subacid or sweet flavor. Usually there is a single rounded or ovate-oblong, flattened seed, 2 3/8 to 4 in (6-10 cm) long." [Fruits and seeds very large and lack means of external attachment]
702	1987. Morton, J.F.. Fruits of warm climates - Sansapote (Licania platypus). J.F. Morton, Miami, FL http://www.hort.purdue.edu/newcrop/morton/sansapote.html	[Propagules dispersed intentionally by people? Yes] "A fruit held in rather low esteem, the sansapote, Licania platypus Fritsch (syn. Moquilea platypus Hemsl.), of the family Chrysobalanaceae, is often called sonzapote, sunzapote, sungano, zapote cabelludo, sapote or sangre in Costa Rica and El Salvador;sonzapote in Nicaragua; zapote amarillo, zapote borracho, zapote cabello, zapote de mico, zapote de mono, mesonsapote, mezonzapote, cabeza de mico, or caca de niño in Mexico; sonza, sunza, zunza, chaute jolobob in Guatemala; urraco in Honduras; chupa in Colombia; monkey apple in Belize." … "It is much planted as an ornamental and shade tree throughout Central America."
703	1987. Morton, J.F.. Fruits of warm climates - Sansapote (Licania platypus). J.F. Morton, Miami, FL http://www.hort.purdue.edu/newcrop/morton/sansapote.html	[Propagules likely to disperse as a produce contaminant? No] "The obovoid or pyriform. fruit, 5 to 8 in (13 20 cm) long, 4 to 5 1/2 in (10-14 cm) wide, has a thin, dark-brown or reddish, warty rind covered with white lenticels. The flesh, somewhat pumpkin-scented, is yellow or orange-yellow, soft, fibrous, dry or juicy and of subacid or sweet flavor. Usually there is a single rounded or ovate-oblong, flattened seed, 2 3/8 to 4 in (6-10 cm) long." [Fruits and seeds very large and unlikely to be inadvertently dispersed as a produce contaminant]
704	1987. Morton, J.F.. Fruits of warm climates - Sansapote (Licania platypus). J.F. Morton, Miami, FL http://www.hort.purdue.edu/newcrop/morton/sansapote.html	[Propagules adapted to wind dispersal? No] "The obovoid or pyriform. fruit, 5 to 8 in (13-20 cm) long, 4 to 5 1/2 in (10-14 cm) wide, has a thin, dark-brown or reddish, warty rind covered with white lenticels. The flesh, somewhat pumpkin-scented, is yellow or orange-yellow, soft, fibrous, dry or juicy and of subacid or sweet flavor. Usually there is a single rounded or ovate-oblong, flattened seed, 2 3/8 to 4 in (6-10 cm) long."
705	2003. Prance, G.T./Sothers, C.A.. Chrysobalanaceae 1: Chrysobalanus to Parinari. Species Plantarum: Flora of the World. 9: 1-319.	[Propagules water dispersed? Possibly. Distribution suggests possible water dispersal] "Forest, most common near rivers, but also in forest away from rivers."
706	1987. Morton, J.F.. Fruits of warm climates - Sansapote (Licania platypus). J.F. Morton, Miami, FL http://www.hort.purdue.edu/newcrop/morton/sansapote.html	[Propagules bird dispersed? Potentially in places with large frugivorous birds, but none exist in the Hawaiian Islands] "The obovoid or pyriform. fruit, 5 to 8 in (13-20 cm) long, 4 to 5 1/2 in (10-14 cm) wide, has a thin, dark-brown or reddish, warty rind covered with white lenticels. The flesh, somewhat pumpkin-scented, is yellow or orange-yellow, soft, fibrous, dry or juicy and of subacid or sweet flavor. Usually there is a single rounded or ovate-oblong, flattened seed, 2 3/8 to 4 in (6-10 cm) long."
706	2003. Prance, G.T./Sothers, C.A.. Chrysobalanaceae 1: Chrysobalanus to Parinari. Species Plantarum: Flora of the World. 9: 1-319.	[Propagules bird dispersed? Yes, but unlikely in Hawaiian Islands] "This species has an edible fruit which is much sought after by birds and animals, but little eaten by man, but was apparently quite important in Pre-Columbian times in Mexico (H.Ochoterena-Booth & H.F.Olvera, 1922)."
707	1987. Morton, J.F.. Fruits of warm climates - Sansapote (Licania platypus). J.F. Morton, Miami, FL http://www.hort.purdue.edu/newcrop/morton/sansapote.html	[Propagules dispersed by other animals (externally)? Possibly by rodents or pigs that carry fruit for consumption away from parent tree] "The obovoid or pyriform. fruit, 5 to 8 in (13 20 cm) long, 4 to 5 1/2 in (10-14 cm) wide, has a thin, dark-brown or reddish, warty rind covered with white lenticels. The flesh, somewhat pumpkin-scented, is yellow or orange-yellow, soft, fibrous, dry or juicy and of subacid or sweet flavor. Usually there is a single rounded or ovate-oblong, flattened seed, 2 3/8 to 4 in (6-10 cm) long." … "Tapirs and peccaries feast on those that are left on the ground."

707	1999. Brewer, S.W./Rejmanek, M.. Small rodents as significant dispersers of tree seeds in a Neotropical forest. Journal of Vegetation Science. 10: 165-174.	[Propagules dispersed by other animals (externally)? Presumably Yes. Seeds cached by rodents] "Table 5. A comparison of the fates of seeds handled by large and small rodents in experiments in Neotropical forests. Seeds dispersed beneath litter or soil ('Cached') or eaten ('Killed') are expressed as mean percent of removed seeds found by the authors." [Licania platypus - 35% cached; 65% killed]
707	2006. Trusty, J.L./Kesler, H.C./Delgado, G.H.. Vascular Flora of Isla del Coco, Costa Rica. Proceedings of the California Academy of Sciences. 57(7): 247–355.	[Propagules dispersed by other animals (externally)? Yes] "Rats and pigs eat the fallen fruits (J. Trusty, pers. obs.). Seedlings have established under the parent tree. First report for Isla del Coco."
707	2012. Chaves, O.M./Stoner, K.E./Arroyo-Rodrıguez, V.. Differences in Diet Between Spider Monkey Groups Living in Forest Fragments and Continuous Forest in Mexico. Biotropica. 10.1111/j.1744-7429.2011.00766.x: .	[Propagules dispersed by other animals (externally)? Dispersed by spider monkeys] "Both continuous forest and fragments presented top food species for spider monkeys (recognized based on review of spider monkey diet; see Methods), and five of them (Brosimum alicastrum, Dialium guianense, Guarea glabra, Licania platypus, and Spondias radlkoferi) were among the ten species with the highest IVI in both forest types"
708	1987. Morton, J.F.. Fruits of warm climates - Sansapote (Licania platypus). J.F. Morton, Miami, FL http://www.hort.purdue.edu/newcrop/morton/sansapote.html	[Propagules survive passage through the gut? Could possibly be dispersed by pigs] "The obovoid or pyriform. fruit, 5 to 8 in (13 20 cm) long, 4 to 5 1/2 in (10-14 cm) wide, has a thin, dark-brown or reddish, warty rind covered with white lenticels. The flesh, somewhat pumpkin scented, is yellow or orange-yellow, soft, fibrous, dry or juicy and of subacid or sweet flavor. Usually there is a single rounded or ovate-oblong, flattened seed, 2 3/8 to 4 in (6 10 cm) long." … "Tapirs and peccaries feast on those that are left on the ground."
708	2006. Trusty, J.L./Kesler, H.C./Delgado, G.H.. Vascular Flora of Isla del Coco, Costa Rica. Proceedings of the California Academy of Sciences. 57(7): 247–355.	[Propagules survive passage through the gut? Possibly Yes. Or fruit transported and seeds discarded or depredated] "Rats and pigs eat the fallen fruits (J. Trusty, pers. obs.). Seedlings have established under the parent tree. First report for Isla del Coco."
708	2009. Naranjo, E.J.. Ecology and Conservation of Baird's tapir in Mexico. Tropical Conservation Science. 2(2): 140-158.	[Propagules survive passage through the gut? Presumably Yes. Tapirs consume fruit] "In both sites tapirs visit areas with abundant fallen fruits (i.e. Brosimum alicastrum, Ficus spp., Licania platypus, Manilkara zapota, Pouteria sapota, and Spondias mombin), especially during the dry season [36, E.J. Naranjo, unpublished data]. Foerster [31] observed a higher proportion of fruit ingested by tapirs during the wet season in CNP. However, the same author asserts that this may be due to a very high intake of a single species (Licania platypus), which produces large amounts of fruit during a short period."
801	1987. Morton, J.F.. Fruits of warm climates - Sansapote (Licania platypus). J.F. Morton, Miami, FL http://www.hort.purdue.edu/newcrop/morton/sansapote.html	[Prolific seed production (>1000/m2)? Few fruits with large seeds] "Only 1 to 3 fruits develop from each particle. The obovoid or pyriform. fruit, 5 to 8 in (13 20 cm) long, 4 to 5 1/2 in (10-14 cm) wide, has a thin, dark-brown or reddish, warty rind covered with white lenticels. The flesh, somewhat pumpkin-scented, is yellow or orange-yellow, soft, fibrous, dry or juicy and of subacid or sweet flavor. Usually there is a single rounded or ovate-oblong, flattened seed, 2 3/8 to 4 in (6-10 cm) long."
801	2008. Janick, J./Paull, R.E.. The encyclopedia of fruit & nuts. Cabi Publishing, Wallingford, UK	[Prolific seed production (>1000/m2)? No] "The 1.5 cm-thick flesh is yellow or orange-yellow, soft, fibrous, and either dry (floury) or juicy, with a penetrating odour and encloses a single rounded or ovate-oblong, flattened seed (6-10 cm long) that occupies most of the volume of the fruit." ..."An adult tree can produce 300-400 fruit each one weighing 0.8-1.2 kg. Fruit fall from the trees when mature and ripen and soften on the ground in 2-3 days." [Although 100s of fruit may be produced, they are relatively large and single-seeded]
802	2001. Baskin, C.C./Baskin, J.M.. Seeds ecology, biogeography, and evolution of dormancy and germination. Academic Press, San Francisco, CA	[Evidence that a persistent propagule bank is formed (>1 yr)? No] "Table 9.4 Types of Seed Dormancy in Semievergreen Forest Trees" [Licania platypus - inferred to be non-dormant]
803	2012. WRA Specialist. Personal Communication.	[Well controlled by herbicides? Unknown] No information on herbicide efficacy or chemical control of this species.
804	2012. WRA Specialist. Personal Communication.	[Tolerates, or benefits from, mutilation, cultivation, or fire? Unknown]
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)
- Fruits & seeds potentially bird and mammal-dispersed

Low Risk / Desirable Traits

- No records of naturalization or invasiveness have been documented
- Will thrive only in low elevation, warm tropical climates
- Unarmed (no spines, thorns, or burrs)
- Non-toxic
- Landscaping and ornamental value
- Slow time to reproductive maturity (10+ years)
- Large fruit & seeds unlikely to be inadvertently dispersed