Taxon: Annona neosericea H.Rainer **Family:** Annonaceae

Common Name(s): araticum, araticum-pecanine, cortiça, pinha-de-mata

Synonym(s): Rollinia dolabripetala var. sericea, Rollinia sericea, Rollinia sericea var. longisepala

Assessor: Chuck Chimera **Status:** Assessor Approved **End Date:** 8 Apr 2016

WRA Score: 2.0 **Designation:** EVALUATE **Rating:** Evaluate

Keywords: Tropical Tree, Unarmed, Edible Fruit, Fleshy-Fruit, Zoochorous

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)		
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)	y
401	Produces spines, thorns or burrs	y=1, n=0	n
402	Allelopathic		
403	Parasitic	y=1, n=0	n
404	Unpalatable to grazing animals		
405	Toxic to animals	y=1, n=0	n
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

Qsn #	Question	Answer Option	Answer
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)		
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		
604	Self-compatible or apomictic		
605	Requires specialist pollinators		
606	Reproduction by vegetative fragmentation	y=1, n=-1	n
607	Minimum generative time (years)		
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)		
708	Propagules survive passage through the gut	y=1, n=-1	y
801	Prolific seed production (>1000/m2)		
802	Evidence that a persistent propagule bank is formed (>1 yr)	y=1, n=-1	n
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**
	Grandtner, M.M. & Chevrette, J. (2012). Dictionary of Trees, Volume 2: South America: Nomenclature, Taxonomy and Ecology. Academic Press, New York	No evidence

102	**Has the species become naturalized where grown?**	
	Source(s)	**Notes**
	WRA Specialist. 2016. Personal Communication	NA

103	**Does the species have weedy races?**	
	Source(s)	**Notes**
	WRA Specialist. 2016. 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**
	Grandtner, M.M. & Chevrette, J. (2012). Dictionary of Trees, Volume 2: South America: Nomenclature, Taxonomy and Ecology. Academic Press, New York	"Annonaceae MC SC SE South America (Bolivia, Brazil: Espírito Santo, São Paulo, Paraná, Santa Catarina)" [MC Mid Central distribution; SC South Central distribution; SE South Eastern distribution]

202	**Quality of climate match data**	**High**
	Source(s)	**Notes**
	Grandtner, M.M. & Chevrette, J. (2012). Dictionary of Trees, Volume 2: South America: Nomenclature, Taxonomy and Ecology. Academic Press, New York	

203	**Broad climate suitability (environmental versatility)**	
	Source(s)	**Notes**
	Lorenzi, H. 2002. Brazilian Trees. Volume 2. 4th Edition. Instituto Plantarum De Estudos Da Flora; Brazil	[Possibly. Elevation range ca. 1000 m, may demonstrate environmental versatility] "Atlantic rainforest in both dense primary and more open secondary formations at elevations up to 1,000 metres"

Qsn #	Question	Answer
204	**Native or naturalized in regions with tropical or subtropical climates**	**y**
	Source(s)	**Notes**
	Grandtner, M.M. & Chevrette, J. (2012). Dictionary of Trees, Volume 2: South America: Nomenclature, Taxonomy and Ecology. Academic Press, New York	"Annonaceae MC SC SE South America (Bolivia, Brazil: Espírito Santo, São Paulo, Paraná, Santa Catarina)" [MC Mid Central distribution; SC South Central distribution; SE South Eastern distribution]

Qsn #	Question	Answer
205	**Does the species have a history of repeated introductions outside its natural range?**	**n**
	Source(s)	**Notes**
	WRA Specialist. 2016. Personal Communication	No evidence of widespread cultivation outside native range

Qsn #	Question	Answer
301	**Naturalized beyond native range**	**n**
	Source(s)	**Notes**
	Randall, R.P. 2012. A Global Compendium of Weeds. 2nd Edition. Department of Agriculture and Food, Western Australia	No evidence
	Wagner, W.L., Herbst, D.R.& Lorence, D.H. 2016. Flora of the Hawaiian Islands. Smithsonian Institution, Washington, D.C. http://botany.si.edu/pacificislandbiodiversity/hawaiianflora/index.htm. [Accessed 8 Apr 2016]	No evidence

Qsn #	Question	Answer
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

Qsn #	Question	Answer
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**
	Randall, R.P. 2012. A Global Compendium of Weeds. 2nd Edition. Department of Agriculture and Food, Western Australia	No evidence

Qsn #	Question	Answer
305	**Congeneric weed**	**y**

Qsn #	Question	Answer
	Source(s)	**Notes**
	Weber, E. 2003. Invasive Plant Species of the World. A Reference Guide to Environmental Weeds. CABI Publishing, Wallingford, UK	"Annona glabra is an invasive tree/shrub that forms dense thickets and shades out native shrubs and trees by preventing their establishment and growth. Species richness is reduced in stands of this tree/shrub."

401	Produces spines, thorns or burrs	n
	Source(s)	**Notes**
	Lorenzi, H. 2002. Brazilian Trees. Volume 2. 4th Edition. Instituto Plantarum De Estudos Da Flora; Brazil	[No evidence] "Annona neosericea is a semideciduous tree with a spreading, flat-topped crown; it can grow 5 - 15 metres tall. The bole can be 40 - 50cm in diameter"

402	Allelopathic	
	Source(s)	**Notes**
	WRA Specialist. 2016. Personal Communication	Unknown

403	Parasitic	n
	Source(s)	**Notes**
	Lorenzi, H. 2002. Brazilian Trees. Volume 2. 4th Edition. Instituto Plantarum De Estudos Da Flora; Brazil	"Annona neosericea is a semideciduous tree with a spreading, flat-topped crown; it can grow 5 - 15 metres tall. The bole can be 40 - 50cm in diameter." [Annonaceae. No evidence]

404	Unpalatable to grazing animals	
	Source(s)	**Notes**
	Grandtner, M.M. & Chevrette, J. (2012). Dictionary of Trees, Volume 2: South America: Nomenclature, Taxonomy and Ecology. Academic Press, New York	"fd (fruits) fr (fruits: birds, domestic animals)" [fd food; fr fodder. Fruit used for food & fodder by humans & animals. Palatability of foliage unknown]

405	Toxic to animals	n
	Source(s)	**Notes**
	Grandtner, M.M. & Chevrette, J. (2012). Dictionary of Trees, Volume 2: South America: Nomenclature, Taxonomy and Ecology. Academic Press, New York	[No evidence] "fd (fruits) fr (fruits: birds, domestic animals)" [fd food; fr fodder. Fruit used for food & fodder by humans & animals]

406	Host for recognized pests and pathogens	
	Source(s)	**Notes**
	Grandtner, M.M. & Chevrette, J. (2012). Dictionary of Trees, Volume 2: South America: Nomenclature, Taxonomy and Ecology. Academic Press, New York	"susceptible to rot"

Qsn #	Question	Answer
	Raga, A., Souza-Filho, M. F. D., Machado, R. A., Sato, M. E., & Siloto, R. C. (2011). Host Ranges and infestation indices of fruit flies (Tephritidae) and lance flies (Lonchaeidae) in São Paulo State, Brazil. Florida Entomologist, 94(4), 787-794	[Fruit fly host] "The knowledge of the status of the different fruit fly species and their hosts is essential to manage these insects. This work reports the associations of tephritoid fly species (Tephritidae and Lonchaeidae) with fruits collected from 67 municipalities in São Paulo State, Brazil. From Mar 1997 to Sep 2003, a total of 536 fruit samples was collected from 63 plant species in 28 botanical families. From overall collections, the average infestation index ranged from 0.01 to 22.98 pupae per fruit. The highest infestation was observed in Cucurbita moschata (Dusc.) Poir, followed by Mangifera indica Linnaeus and Passiflora alata Curtis, with 107.14, 59.00, and 38.50 pupae/fruit, respectively. The pupae/kg of fruit index ranged from 0.01 in Manihot esculenta Crantz to 277.91 in Citharexylum myrianthum Cham. In total 43,104 pupae and 26,368 adults of Tephritoidea were recovered from all collections. The following Tephritoidea adults were observed: Anastrepha amita Zucchi , Anastrepha bahiensis Lima , Anastrepha distincta Greene , Anastrepha. fraterculus (Wied.) , Anastrepha grandis (Macquart) , Anastrepha leptozona Hendel , Anastrepha oblique (Macquart) , Anastrepha pseudoparallela (Loew) , Anastrepha serpentine (Wied.), Anastrepha sororcula Zucchi, Ceratitis capitata (Wied.) and Lonchaeidae. All host species infested by C. capitata or Anastrepha spp. also were infested by Lonchaeidae"
	Peña, J. E., Nadel, H., Barbosa-Pereira, M., & Smith, D. (2002). Pollinators and Pests of Annona Species. Tropical Fruit Pests and Pollinators: Biology, Economic Importance, Natural Enemies, and Control, 197. CAB International, Wallingford, UK	[Generic description of pests. Specifics for A. hypoglauca unknown] "In the Neotropics 296 species of arthropods are recorded as associated with Annona species. The families most frequently observed on Annona species are Coccidae (Homoptera), Noctuidae, Oecophoridae (Lepidoptera), and Eurytomidae (Hymenoptera)."

407	Causes allergies or is otherwise toxic to humans	n
	Source(s)	**Notes**
	Grandtner, M.M. & Chevrette, J. (2012). Dictionary of Trees, Volume 2: South America: Nomenclature, Taxonomy and Ecology. Academic Press, New York	[No evidence] "fd (fruits) fr (fruits: birds, domestic animals)" [fd food; fr fodder. Fruit used for food & fodder by humans & animals]
	Quattrocchi, U. 2012. CRC World Dictionary of Medicinal and Poisonous Plants: Common Names, Scientific Names, Eponyms, Synonyms, and Etymology. CRC Press, Boca Raton, FL	No evidence
	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**
	Lorenzi, H. 2002. Brazilian Trees. Volume 2. 4th Edition. Instituto Plantarum De Estudos Da Flora; Brazil	"Atlantic rainforest in both dense primary and more open secondary formations at elevations up to 1,000 metres" [Unlikely, Occurs in rainforest, which is presumably not prone to frequent fire]

409	Is a shade tolerant plant at some stage of its life cycle	y

Qsn #	Question	Answer
	Source(s)	**Notes**
	Grandtner, M.M. & Chevrette, J. (2012). Dictionary of Trees, Volume 2: South America: Nomenclature, Taxonomy and Ecology. Academic Press, New York	"hel sci" [hel heliophilous, adapted to life in full sunlight (shade intolerant); sci sciaphilous, adapted to life in the shade (shade tolerant)]
	Morellato, L. P. C., Talora, D. C., Takahasi, A., Bencke, C. C. Romera, E. C., & Zipparro, V. B.. (2000). Phenology of Atlantic Rain Forest Trees: A Comparative Study. Biotropica, 32(4b), 811–823	[Presumably yes. Understory tree] "The understory is represented by small trees such as Guatteria gua- zumaefolia, Rollinia sericea, Guarea macrophylla, Guapira opposita, Marlierea obscura, and several Myrtaceae, and a scattered shrub and herbaceous layer dominated by Rubiaceae, Piperaceae, and Arecaceae."

410	**Tolerates a wide range of soil conditions (or limestone conditions if not a volcanic island)**	
	Source(s)	**Notes**
	Lorenzi, H. 2002. Brazilian Trees. Volume 2. 4th Edition. Instituto Plantarum De Estudos Da Flora; Brazil	[Soil types unknown] "Atlantic rainforest in both dense primary and more open secondary formations at elevations up to 1,000 metres"

411	**Climbing or smothering growth habit**	**n**
	Source(s)	**Notes**
	Lorenzi, H. 2002. Brazilian Trees. Volume 2. 4th Edition. Instituto Plantarum De Estudos Da Flora; Brazil	"Annona neosericea is a semideciduous tree with a spreading, flat-topped crown; it can grow 5 - 15 metres tall. The bole can be 40 - 50cm in diameter"

412	**Forms dense thickets**	**n**
	Source(s)	**Notes**
	Lorenzi, H. 2002. Brazilian Trees. Volume 2. 4th Edition. Instituto Plantarum De Estudos Da Flora; Brazil	"Atlantic rainforest in both dense primary and more open secondary formations at elevations up to 1,000 metres" [No evidence]
	Paul J. M. Maas, Lubbert Y. Th. Westra, Brown, K. S., Maas, P. J. M., B. J. H. ter Welle, A. C. Webber, et al. (1992). Rollinia. Flora Neotropica, 57, 1–188	"Southeastern Brazil. Primary and secondary forest, up to 550 m altitude, flowering throughout the year." [No evidence]

501	**Aquatic**	**n**
	Source(s)	**Notes**
	Lorenzi, H. 2002. Brazilian Trees. Volume 2. 4th Edition. Instituto Plantarum De Estudos Da Flora; Brazil	[Terrestrial Tree] "Annona neosericea is a semideciduous tree with a spreading, flat-topped crown;"

502	**Grass**	**n**
	Source(s)	**Notes**
	USDA, ARS, Germplasm Resources Information Network, 2016. National Plant Germplasm System [Online Database]. http://www.ars-grin.gov/npgs/index.html. [Accessed 8 Apr 2016]	"Family: Annonaceae"

503	**Nitrogen fixing woody plant**	**n**

Qsn #	Question	Answer
	Source(s)	**Notes**
	USDA, ARS, Germplasm Resources Information Network, 2016. National Plant Germplasm System [Online Database]. http://www.ars-grin.gov/npgs/index.html. [Accessed 8 Apr 2016]	"Family: Annonaceae"

504	**Geophyte (herbaceous with underground storage organs -- bulbs, corms, or tubers)**	**n**
	Source(s)	**Notes**
	Lorenzi, H. 2002. Brazilian Trees. Volume 2. 4th Edition. Instituto Plantarum De Estudos Da Flora; Brazil	"Annona neosericea is a semideciduous tree with a spreading, flat-topped crown; it can grow 5 - 15 metres tall. The bole can be 40 - 50cm in diameter"

601	**Evidence of substantial reproductive failure in native habitat**	**n**
	Source(s)	**Notes**
	Lorenzi, H. 2002. Brazilian Trees. Volume 2. 4th Edition. Instituto Plantarum De Estudos Da Flora; Brazil	No evidence

602	**Produces viable seed**	**y**
	Source(s)	**Notes**
	Useful Tropical Plants Database. 2016. Annona neosericea. http://tropical.theferns.info/viewtropical.php?id=Annona+neosericea. [Accessed 8 Apr 2016]	"Propagation Seed - it has a hard seedcoat and may benefit from scarification before sowing to speed up germination. This can usually be done by pouring a small amount of nearly boiling water on the seeds (being careful not to cook them!) and then soaking them for 12 - 24 hours in warm water. By this time they should have imbibed moisture and swollen - if they have not, then carefully make a nick in the seedcoat (being careful not to damage the embryo) and soak for a further 12 hours before sowing. Sow the seed as sown as soon as it is ripe in a partially shaded position in a nursery seedbed. A low germination rate can be expected from untreated seed, with the seed sprouting within 30 - 50 days"

603	**Hybridizes naturally**	
	Source(s)	**Notes**
	Pinto, A.C. de Q., Cordeiro, M.C.R., Andrade, S.R.M. de, Ferreira, F.R., Filgueiras, H.A.C., Alves, R.E. & Kinpara, D.I. 2005. Annona species. International Centre for Underutilised Crops, University of Southampton, Southampton, UK	[Unknown. Hybridization possible in genus] "This slight variation in chromosome number may explain the ease or difficulty of interspecific hybridisation and grafting, and warrants further work to determine if intra specific variation also exists. Some related species, e.g., A. glabra, are known to be tetraploid (Kessler, 1993, cited by Scheldeman, 2002). Generally, crosspollination between annonas is conducted primarily to determine compatibility for increasing fruit set (Nakasone and Paull, 1998) and occasionally for new hybrid development."

604	**Self-compatible or apomictic**	

Qsn #	Question	Answer
	Source(s)	**Notes**
	Peña, J. E., Nadel, H., Barbosa-Pereira, M., & Smith, D. (2002). Pollinators and Pests of Annona Species. Tropical Fruit Pests and Pollinators: Biology, Economic Importance, Natural Enemies, and Control, 197. CAB International, Wallingford, UK	[Possibly No. Generic description] "Annonaceous flowers are protogynously dichogamous, opening as females with receptive stigmas and closed anthers, and later losing stigmal receptivity as the flowers turn into pollen shedding males (Gottsberger, 1970). This evolutionary adaptation prevents deposition of pollen on to the stigmas in the same flower, and is one of many techniques that plants employ to avoid self-fertilization. Prevention of the transfer of pollen between different flowers on the same plant is another technique used by many Annonaceae, and is achieved through synchronization of flowering, where, at any time, open flowers on one plant are functionally of only one sex. These temporal floral traits, commonly enhanced with inherent incompatibility between pollen and ovule from the same plant, render most annonaceous species unable to self-pollinate."

605	Requires specialist pollinators	
	Source(s)	**Notes**
	Peña, J. E., Nadel, H., Barbosa-Pereira, M., & Smith, D. (2002). Pollinators and Pests of Annona Species. Tropical Fruit Pests and Pollinators: Biology, Economic Importance, Natural Enemies, and Control, 197. CAB International, Wallingford, UK	[Possibly pollinator limited] "Inadequate pollination is implicated as a major factor limiting production of commercial Annona fruits in many locations (Gazit et al., 1982). This is attributed, in part, to the temporal separation of female and male function within the flower, which limits its potential to self-pollinate without external factors. The commonest problem is lack of pollinators. This is a direct result of the expansion of plantations into regions outside the native range of the plants and their pollinators, and may be due even to the unnatural conditions imposed by cultivation, regardless of locality." ... "The majority of Annonaceae are pollinated by beetles, although some are pollinated by thrips (e.g. Momose et al., 1998), true bugs (Farre et al., 1997), and even cockroaches (Nagamitsu and Inoue, 1997)."

606	Reproduction by vegetative fragmentation	n
	Source(s)	**Notes**
	Useful Tropical Plants Database. 2016. Annona neosericea. http://tropical.theferns.info/viewtropical.php?id=Annona+neosericea. [Accessed 8 Apr 2016]	[No evidence] "Propagation Seed - it has a hard seedcoat and may benefit from scarification before sowing to speed up germination. This can usually be done by pouring a small amount of nearly boiling water on the seeds (being careful not to cook them!) and then soaking them for 12 - 24 hours in warm water. By this time they should have imbibed moisture and swollen - if they have not, then carefully make a nick in the seedcoat (being careful not to damage the embryo) and soak for a further 12 hours before sowing. Sow the seed as sown as soon as it is ripe in a partially shaded position in a nursery seedbed. A low germination rate can be expected from untreated seed, with the seed sprouting within 30 - 50 days[420]."

Qsn #	Question	Answer
607	**Minimum generative time (years)**	
	Source(s)	**Notes**
	Lorenzi, H. 2002. Brazilian Trees. Volume 2. 4th Edition. Instituto Plantarum De Estudos Da Flora; Brazil	[Possibly 2-4 years] "A moderately fast-growing tree, able to reach a height of around 2.5 metres within 2 years from seed"

701	**Propagules likely to be dispersed unintentionally (plants growing in heavily trafficked areas)**	**n**
	Source(s)	**Notes**
	Paul J. M. Maas, Lubbert Y. Th. Westra, Brown, K. S., Maas, P. J. M., B. J. H. ter Welle, A. C. Webber, et al. (1992). Rollinia. Flora Neotropica, 57, 1–188	[Fruit & seeds lack means of external attachment] "Fruit ovoid, 2-3 cm long, 2-2.5 cm in diam., on distinct torus 3 x 5-6 mm, green, maturing yellow in vivo, greyish-brown when dry, composed of 100-150 carpels, sparsely to rather densely covered with appressed, greyish to brown hairs, areoles pyramidal, straight to recurved (rarely incurved), to pulvinate with straight to recurved (rarely incurved) apicule in the upper half or about the middle, 3-4 mm in diam. at the base, apex or apicule acute (to apicule acicular), 2-3 mm high, surface irregularly wrinkled, sometimes longitudinally grooved on the abaxial suture; wall 1-2 mm thick. Seeds 7- 8 x 3-5 x 1-3 mm."

702	**Propagules dispersed intentionally by people**	**y**
	Source(s)	**Notes**
	Fruit Lover's Seed Co. 2016. Tropical Fruit Seed List. http://www.fruitlovers.com/seedlistUSA.html. [Accessed 8 Apr 2016]	Seeds sold online

703	**Propagules likely to disperse as a produce contaminant**	**n**
	Source(s)	**Notes**
	Lorenzi, H. 2002. Brazilian Trees. Volume 2. 4th Edition. Instituto Plantarum De Estudos Da Flora; Brazil	"The fruit is an ovoid berry around 5cm long and 4cm wide made up of 100 - 150 united carpels" [No evidence. Unlikely. Fruit & seeds relatively large]

704	**Propagules adapted to wind dispersal**	**n**
	Source(s)	**Notes**
	Paul J. M. Maas, Lubbert Y. Th. Westra, Brown, K. S., Maas, P. J. M., B. J. H. ter Welle, A. C. Webber, et al. (1992). Rollinia. Flora Neotropica, 57, 1–188	[Zoochorous] "Fruit ovoid, 2-3 cm long, 2-2.5 cm in diam., on distinct torus 3 x 5-6 mm, green, maturing yellow in vivo, greyish-brown when dry, composed of 100-150 carpels, sparsely to rather densely covered with appressed, greyish to brown hairs, areoles pyramidal, straight to recurved (rarely incurved), to pulvinate with straight to recurved (rarely incurved) apicule in the upper half or about the middle, 3-4 mm in diam. at the base, apex or apicule acute (to apicule acicular), 2-3 mm high, surface irregularly wrinkled, sometimes longitudinally grooved on the abaxial suture; wall 1-2 mm thick. Seeds 7- 8 x 3-5 x 1-3 mm."

705	**Propagules water dispersed**	**n**

Qsn #	Question	Answer
	Source(s)	**Notes**
	Miranda Neto, A. (2015). Banco de sementes do solo, regeneração natural e dinâmica da serapilheira em área minerada em processo de restauração no sudeste do Brasil. PhD Dissertation. Universidade Federal de Viçosa, Brazil	[Zoochorous] "Table 2. Floristic and importance value (IV) of the species sampled in natural regeneration layer in area in restoration, Brazil." [Annona neosericea - DS = Zoo. dispersal syndrome; Zoo: zoochory;]
	WRA Specialist. 2016. Personal Communication	Adapted for zoochory, although fruit may be buoyant & could be dispersed by water if growing in riparian areas

706	Propagules bird dispersed	y
	Source(s)	**Notes**
	Grandtner, M.M. & Chevrette, J. (2012). Dictionary of Trees, Volume 2: South America: Nomenclature, Taxonomy and Ecology. Academic Press, New York	"fr (fruits: birds, domestic animals)" [Fruit consumed by birds]
	Cestari, C., & Pizo, M. A. (2013). Seed dispersal by the lek-forming white-bearded manakin (Manacus manacus, Pipridae) in the Brazilian Atlantic forest. Journal of Tropical Ecology, 29(05), 381-389	"Manacus manacus is a small (15–18 g) understorey frugivorous bird that mainly inhabits lowland Neotropical forests." ... "Appendix 1. Abundances of species and morphospecies of seeds collected in leks of Manacus manacus and non-lek areas from July 2009 to June 2011 in the Atlantic forest, south-eastern Brazil." [Seeds of Rollinia sericea = Annona neosericea collected in non-lek areas]

707	Propagules dispersed by other animals (externally)	
	Source(s)	**Notes**
	Pizo, M. A., & Oliveira, P. S. (2000). The Use of Fruits and Seeds by Ants in the Atlantic Forest of Southeast Brazil. Biotropica, 32(4b), 851-861	"TABLE 2. Number of ant species attracted to the diaspores and the chemical composition (percent dry mass) of their pulp or aril. Plant species followed by an asterisk have arillate diaspores." [Rollinia sericea attracts 13 ant species. Presumably attracted to fruit pulp, but unknown if seed dispersal also occurs]

708	Propagules survive passage through the gut	y
	Source(s)	**Notes**
	Miranda Neto, A. (2015). Banco de sementes do solo, regeneração natural e dinâmica da serapilheira em área minerada em processo de restauração no sudeste do Brasil. PhD Dissertation. Universidade Federal de Viçosa, Brazil	[Zoochorous. Presumably yes] "Table 2. Floristic and importance value (IV) of the species sampled in natural regeneration layer in area in restoration, Brazil." [Annona neosericea - DS = Zoo. dispersal syndrome; Zoo: zoochory;]

Qsn #	Question	Answer
801	**Prolific seed production (>1000/m2)**	
	Source(s)	**Notes**
	Galetti, M., Pizo, M. A., & Morellato, L. P. C. (2011). Diversity of functional traits of fleshy fruits in a species-rich Atlantic rain forest. Biota Neotropica, 11(1), 181-193	[Rollinia sericea - No. seeds/ fruit = >50. Totals per tree unknown] "Appendix 1. Growth form, colour, and mean morphological measures of vertebrate-dispersed fruits of the Saibadela forest. Values are based on at least ten fruits per species. Values for mean seed number and fruit and seed dimensions were rounded to the nearest integer. Species with temporally bicolored fruits are indicated by asterisks."

802	**Evidence that a persistent propagule bank is formed (>1 yr)**	**n**
	Source(s)	**Notes**
	Lorenzi, H. 2002. Brazilian Trees. Volume 2. 4th Edition. Instituto Plantarum De Estudos Da Flora; Brazil	The seed has a short viability in storage

803	**Well controlled by herbicides**	
	Source(s)	**Notes**
	WRA Specialist. 2016. Personal Communication	Unknown. No information on herbicide efficacy or chemical control of this species

804	**Tolerates, or benefits from, mutilation, cultivation, or fire**	
	Source(s)	**Notes**
	WRA Specialist. 2016. Personal Communication	Unknown

805	**Effective natural enemies present locally (e.g. introduced biocontrol agents)**	
	Source(s)	**Notes**
	WRA Specialist. 2016. Personal Communication	Unknown

Summary of Risk Traits:

High Risk / Undesirable Traits
• Thrives in tropical climates
• Other Annona species are invasive
• Reproduces by seeds
• Seeds dispersed by birds, mammals & intentionally by people
• Limited ecological information may reduce accuracy of risk prediction

Low Risk Traits
• No reports of invasiveness or naturalization, but no evidence of widespread introduction outside native range
• Unarmed (no spines, thorns or burrs)
• Non-toxic
• Edible fruit
• Relatively large fruit & seeds may minimize risk of accidental dispersal

Second Screening Results for Tree/tree-like shrubs

(A) Shade tolerant or known to form dense stands?> Yes. Shade tolerant
(B) Bird or clearly wind-dispersed?> Yes. Seeds dispersed by birds & other frugivores
(C) Life cycle < 4 years? Unknown
Outcome = Evaluate