Taxon: Inga jinicuil G. Don **Family:** Fabaceae

Common Name(s): chalahuite, chalahuite de monte, coctzán, cuajinicuil, ice cream bean, jinicuil, paterno

Synonym(s): Inga jinicuil Schltdl., Inga paterno Harms

Assessor: Chuck Chimera **Status:** Assessor Approved **End Date:** 19 Oct 2016

WRA Score: 1.0 **Designation:** L **Rating:** Low Risk

Keywords: Tropical Tree, Edible Pulp, N-Fixing, Self-Incompatible, Bird-Dispersed

Qsn #	Question	Answer Option	Answer
101	Is the species highly domesticated?	y=-3, n=0	n
102	Has the species become naturalized where grown?		
103	Does the species have weedy races?		
201	Species suited to tropical or subtropical climate(s) - If island is primarily wet habitat, then substitute "wet tropical" for "tropical or subtropical"	(0-low; 1-intermediate; 2-high) (See Appendix 2)	High
202	Quality of climate match data	(0-low; 1-intermediate; 2-high) (See Appendix 2)	High
203	Broad climate suitability (environmental versatility)	y=1, n=0	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	y
301	Naturalized beyond native range		
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		
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	n
405	Toxic to animals	y=1, n=0	n

Qsn #	Question	Answer Option	Answer
406	Host for recognized pests and pathogens		
407	Causes allergies or is otherwise toxic to humans	y=1, n=0	n
408	Creates a fire hazard in natural ecosystems	y=1, n=0	n
409	Is a shade tolerant plant at some stage of its life cycle	y=1, n=0	n
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	y
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	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	2
701	Propagules likely to be dispersed unintentionally (plants growing in heavily trafficked areas)	y=1, n=-1	n
702	Propagules dispersed intentionally by people	y=1, n=-1	y
703	Propagules likely to disperse as a produce contaminant	y=1, n=-1	n
704	Propagules adapted to wind dispersal	y=1, n=-1	n
705	Propagules water dispersed		
706	Propagules bird dispersed	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)	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		
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)		

Supporting Data:

Qsn #	Question	Answer
101	**Is the species highly domesticated?**	**n**
	Source(s)	**Notes**
	Vozzo, J.A. 2002. Tropical Tree Seed Manual. USDA Forest Service, Washington, D.C.	[No evidence of domestication] "Native to the tropical regions of Mexico, Inga jiniciul is distributed in the states of Puebla, Veracruz, Tabasco, Oaxaca, Guerrero, Michoacán, and Jalisco. The species is part of the mountain mesophyll forests and the gallery forests that grow along rivers."

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**
	USDA, ARS, Germplasm Resources Information Network, 2016. National Plant Germplasm System [Online Database]. http://www.ars-grin.gov/npgs/index.html. [Accessed 19 Oct 2016]	"Native: Northern America Southern Mexico: Mexico - Chiapas, - Oaxaca, - Puebla, - Tabasco, - Veracruz Southern America Mesoamerica: Costa Rica; El Salvador; Guatemala; Honduras; Nicaragua Western South America: Ecuador"

202	**Quality of climate match data**	**High**
	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 19 Oct 2016]	

Qsn #	Question	Answer
203	**Broad climate suitability (environmental versatility)**	**y**
	Source(s)	**Notes**
	Schembera, E. (2004). The Legume Flora of the Golfo Dulce Rain Forests: Diversity and Ecological Observations. University of Vienna, Austria	"distribution from Mexico to Panamá, 0 - 1400 m altitude" [Elevation range exceeds 1000 m, demonstrating environmental versatility]
	Vozzo, J.A. 2002. Tropical Tree Seed Manual. USDA Forest Service, Washington, D.C.	"The climate in which it prospers is humid with an average annual precipitation of 1490 mm, a dry season lasting 1 month, and an average annual temperature of 18 °C. Inga jinicuil grows at elevations from 900 to 1500 m."

204	**Native or naturalized in regions with tropical or subtropical climates**	**y**
	Source(s)	**Notes**
	Vozzo, J.A. 2002. Tropical Tree Seed Manual. USDA Forest Service, Washington, D.C.	"Native to the tropical regions of Mexico, Inga jiniciul is distributed in the states of Puebla, Veracruz, Tabasco, Oaxaca, Guerrero, Michoacán, and Jalisco. The species is part of the mountain mesophyll forests and the gallery forests that grow along rivers."
	USDA, ARS, Germplasm Resources Information Network, 2016. National Plant Germplasm System [Online Database]. http://www.ars-grin.gov/npgs/index.html. [Accessed 19 Oct 2016]	"Native: Northern America Southern Mexico: Mexico - Chiapas, - Oaxaca, - Puebla, - Tabasco, - Veracruz Southern America Mesoamerica: Costa Rica; El Salvador; Guatemala; Honduras; Nicaragua Western South America: Ecuador"

205	**Does the species have a history of repeated introductions outside its natural range?**	**y**
	Source(s)	**Notes**
	Groom, A. (2012). Inga jinicuil. The IUCN Red List of Threatened Species 2012: e.T19893012A19999543. http://dx.doi.org/10.2305/IUCN.UK.2012.RLTS.T19893012A19999 43.en. [Accessed 19 Oct 2016]	"Inga jinicuil is a widely cultivated species and this has made the identification of the native range difficult, however, it is generally considered to be native from Mexico to Costa Rica, with the exclusion of Belize where the taxon is yet to be collected. The taxon is not known to be experiencing any major threats at present and is thus rated as Least Concern."
	Vozzo, J.A. 2002. Tropical Tree Seed Manual. USDA Forest Service, Washington, D.C.	"Inga jinicuil is also cultivated as an ornamental tree."

Qsn #	Question	Answer
301	**Naturalized beyond native range**	
	Source(s)	**Notes**
	Randall, R.P. 2012. A Global Compendium of Weeds. 2nd Edition. Department of Agriculture and Food, Western Australia	Reported as naturalized in Belize, but native range unclear. Other sources consider Belize part of natural range
	Wagner, W.L., Herbst, D.R.& Lorence, D.H. 2016. Flora of the Hawaiian Islands. Smithsonian Institution, Washington, D.C. http://botany.si.edu/. [Accessed 19 Oct 2016]	To date, only Inga sertulifera DC subsp. leptopus (Benth.) T. D. Penn. is reported to be naturalized in the Hawaiian Islands (Distribution: K (Koloa District))

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

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

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

305	Congeneric weed	
	Source(s)	**Notes**
	Randall, R.P. 2012. A Global Compendium of Weeds. 2nd Edition. Department of Agriculture and Food, Western Australia	Potentially. Inga ingoides, Inga nobilis, Inga quaternata, Inga sapindoides. Inga schimpffii, Inga sp., Inga spectabilis, and Inga striata are listed as naturalized and/or weeds of some kind, but no evidence of negative impacts was found in the literature

401	Produces spines, thorns or burrs	n
	Source(s)	**Notes**
	Vozzo, J.A. 2002. Tropical Tree Seed Manual. USDA Forest Service, Washington, D.C.	[No evidence] "Inga jinicuil is an evergreen tree that can reach 20 m in height and 50 cm d.b.h. The trunk is straight, and the spreading, round crown consists of rising branches with dense foliage. The leaves are pinnate, made up of six elliptic or lanceolate leaflets, 8 to 11 cm long."

Qsn #	Question	Answer
402	**Allelopathic**	**n**
	Source(s)	**Notes**
	Vozzo, J.A. 2002. Tropical Tree Seed Manual. USDA Forest Service, Washington, D.C.	[No evidence] "The tree is used primarily for shade in coffee and orange plantations and in hedges to mark boundaries and properties in rural areas. Resistant to freezes, this species fixes atmospheric nitrogen at a rate of 35 to 40 kg per ha per year, a rate that often exceeds that of applied fertilizers (Nair 1993, Roskoski 1981)"

403	Parasitic	n
	Source(s)	**Notes**
	Vozzo, J.A. 2002. Tropical Tree Seed Manual. USDA Forest Service, Washington, D.C.	"Inga jinicuil is an evergreen tree that can reach 20 m in height and 50 cm d.b.h." [Fabaceae. No evidence]

404	Unpalatable to grazing animals	n
	Source(s)	**Notes**
	CONAFOR: Sistema Nacional de Información Forestal. (2016). Inga jinicuil. http://www.conabio.gob.mx. [Accessed 19 Oct 2016]	"Buena productora de forraje verde." [Translation: Good producer of green fodder.]
	Ascencio-Rojas, L., Valles-de la Mora, B., Ibrahim, M., & Castillo Gallegos, E. (2013). Use and management of tree fodder resources on farms in central Veracruz, Mexico. Avances en Investigacion Agropecuaria, 17(1): 95-117	"Table 9 Woody species with more frequency of use in cattle farms ir three animal production systems in the municipalities of Tlapacoyan, Misantla and Martínez de la Torre, Veracruz (Mexico)." [Inga jinicuil used for food]

405	Toxic to animals	n
	Source(s)	**Notes**
	Useful Tropical Plants Database. (2016). Inga jinicuil. http://tropical.theferns.info/viewtropical.php?id=Inga+jinicuil. [Accessed 19 Oct 2016]	"Known Hazards None known"
	CONAFOR: Sistema Nacional de Información Forestal. (2016). Inga jinicuil. http://www.conabio.gob.mx. [Accessed 19 Oct 2016]	[No evidence] "Buena productora de forraje verde." [Translation: Good producer of green fodder.]
	Wagstaff, D.J. 2008. International poisonous plants checklist: an evidence-based reference. CRC Press, Boca Raton, FL	No evidence

406	Host for recognized pests and pathogens	
	Source(s)	**Notes**
	Useful Tropical Plants Database. (2016). Inga jinicuil. http://tropical.theferns.info/viewtropical.php?id=Inga+jinicuil. [Accessed 19 Oct 2016]	"This was the first species cultivated for coffee shade in Central America, but due to its susceptibility to pests it is being replaced by other Inga species" [Unknown]

407	Causes allergies or is otherwise toxic to humans	n
	Source(s)	**Notes**

Qsn #	Question	Answer
	Vozzo, J.A. 2002. Tropical Tree Seed Manual. USDA Forest Service, Washington, D.C.	[No evidence] "Inga jinicuil is also cultivated as an ornamental tree. The fruits are gathered in large amounts and sold in markets for their pulpy, white, edible seedcoat. The wood is used for firewood and for construction in rural areas."
	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**
	Vozzo, J.A. 2002. Tropical Tree Seed Manual. USDA Forest Service, Washington, D.C.	"The species is part of the mountain mesophyll forests and the gallery forests that grow along rivers." ... "The climate in which it prospers is humid with an average annual precipitation of 1490 mm, a dry season lasting 1 month, and an average annual temperature of 18 °C." [Unlikely given distribution in wetter areas]

409	Is a shade tolerant plant at some stage of its life cycle	n
	Source(s)	**Notes**
	Hawaiian Tropical Plant Nursery. 2016. Edible Plants. http://www.hawaiiantropicalplants.com/fruit.html. [Accessed 19 Oct 2016]	"Full sun"
	Useful Tropical Plants Database. (2016). Inga jinicuil. http://tropical.theferns.info/viewtropical.php?id=Inga+jinicuil. [Accessed 19 Oct 2016]	"Prefers a position in full sun in a fertile, well-drained soil"

410	Tolerates a wide range of soil conditions (or limestone conditions if not a volcanic island)	y
	Source(s)	**Notes**
	iplantz. (2016). Inga jinicuil. http://www.iplantz.com/plant/884/inga-jinicuil/. [Accessed 19 Oct 2016]	"It tolerates a wide variety of soil types and textures, including clay, loam, sand and limestone that have a moderately acid to alkaline nature, generally in the pH 5.0 to 8.0 range, but is intolerant of waterlogging, requiring free-drainage for good growth and development."

411	Climbing or smothering growth habit	n
	Source(s)	**Notes**
	Vozzo, J.A. 2002. Tropical Tree Seed Manual. USDA Forest Service, Washington, D.C.	"Inga jinicuil is an evergreen tree that can reach 20 m in height and 50 cm d.b.h."

412	Forms dense thickets	n
	Source(s)	**Notes**
	Vozzo, J.A. 2002. Tropical Tree Seed Manual. USDA Forest Service, Washington, D.C.	"The species is part of the mountain mesophyll forests and the gallery forests that grow along rivers." [No evidence from native range]

Qsn #	Question	Answer
501	**Aquatic**	**n**
	Source(s)	**Notes**
	Vozzo, J.A. 2002. Tropical Tree Seed Manual. USDA Forest Service, Washington, D.C.	[Terrestrial tree] "The species is part of the mountain mesophyll forests and the gallery forests that grow along rivers." ... "Inga jinicuil is an evergreen tree that can reach 20 m in height and 50 cm d.b.h."

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 19 Oct 2016]	"Family: Fabaceae (alt.Leguminosae) Subfamily: Mimosoideae"

503	Nitrogen fixing woody plant	y
	Source(s)	**Notes**
	Roskoski, J. P., & Van Kessel, C. (1985). Annual, seasonal and diel variation in nitrogen fixing activity by Inga jinicuil, a tropical leguminous tree. Oikos, 44(2): 306-312	"Patterns in nitrogen-fixing activity by Inga jinicuil Schl., a leguminous shade tree in Mexican coffee plantations, were monitored over a three-and-half year period using acetylene reduction. Year to year variation was unexpectedly large; mean annual fixation equalled 35 kg N ha-1 yr-1, which constitutes a significant nitrogen input to the coffee ecosystem. Nitrogen-fixing activity occurred throughout the year but was highest during the summer and autumn when precipitation and temperature were at a maximum and when the majority of tree growth and reproduction occurred. I. jinicuil flowered twice annually and nodular activity peaked once during each reproductive cycle, with maximum activity after flowering in the first reproductive cycle and before flowering in the second. Diel fluctuation in nitrogen fixation rates were obtained on most but not all sampling dates, but the observed patterns of activity varied from date to date. Aside from an activity peak that occurred at 1900 hours averaged rates of nodular activity were remarkably constant throughout the day. Nodules from seedlings fixed 35% more nitrogen than 30-yr-old-trees but had a similar diel activity pattern. Overall, the results show that variability in nitrogen-fixing activity was large between years, pronounced but explainable between months, and relatively small between hours of the day. The timing of maximum and minimum activity, both seasonally and daily, differed significantly from what has been reported for most other nitrogen-fixing species."

504	Geophyte (herbaceous with underground storage organs -- bulbs, corms, or tubers)	n
	Source(s)	**Notes**
	Vozzo, J.A. 2002. Tropical Tree Seed Manual. USDA Forest Service, Washington, D.C.	"Inga jinicuil is an evergreen tree that can reach 20 m in height and 50 cm d.b.h. The trunk is straight, and the spreading, round crown consists of rising branches with dense foliage."

Qsn #	Question	Answer
601	**Evidence of substantial reproductive failure in native habitat**	**n**
	Source(s)	**Notes**
	Groom, A. (2012). Inga jinicuil. The IUCN Red List of Threatened Species 2012: e.T19893012A19999543. http://dx.doi.org/10.2305/IUCN.UK.2012.RLTS.T19893012A19999 43.en. [Accessed 19 Oct 2016]	"This taxon is not considered to be threatened or in decline at present."

602	**Produces viable seed**	**y**
	Source(s)	**Notes**
	Vozzo, J.A. 2002. Tropical Tree Seed Manual. USDA Forest Service, Washington, D.C.	"The fruits are green and become yellowish green as they ripen. They are not gathered when they are over-ripe because the seeds acquire an unpleasant taste. Poles with metal hooks are used to collect fruits. Children throw stones to knock down fruit or pull down the branches with hemp or jute ropes. The fruits are twisted to separate the valves and extract the seeds. Because the seeds removed from the fruit die quickly from desiccation, they must be planted immediately in a bed of wet moss."

603	**Hybridizes naturally**	
	Source(s)	**Notes**
	WRA Specialist. 2016. Personal Communication	Unknown

604	**Self-compatible or apomictic**	**n**
	Source(s)	**Notes**
	Brennan, E. B., & Mudge, K. W. (1998). Vegetative propagation of Inga feuillei from shoot cuttings and air layering. New Forests, 1 (1), 37-51	"Another reason to consider vegetative propagation of Inga is to exploit the selfincompatibility (SI) mechanism thought to be associated with its sexual reproduction. The few studies (Koptur 1984; Leon 1966) thus far indicate a high degree of SI within the genus, although one of us (Brennan) has observed good fruiting of isolated I. feuillei trees. If most Inga are self incompatible, as are many woody mimosoids like Calliandra Benth. and Albizia Durazz. (Koptur 1984), vegetative propagation could be a useful tool in selection and genetic improvement programs."
	Koptur, S. (1984). Outcrossing and pollinator limitation of fruit set: breeding systems of neotropical Inga trees (Fabaceae: Mimosoideae). Evolution, 38(5): 1130-1143	"Hand-pollinations were performed on six of the seven Inga species, and the results (Table 4) indicate that these species are self-incompatible, using the criteria of Bawa (1974) and Zapata and Arroyo (1978)." ... "Self-incompatibility is more widespread in woody than herbaceous legumes (Arroyo, 1981). The tribe Ingeae is a largely woody group, and all species previously tested have proven self-incompatible."

605	**Requires specialist pollinators**	**n**
	Source(s)	**Notes**

Qsn #	Question	Answer
	CONAFOR: Sistema Nacional de Información Forestal. (2016). Inga jinicuil. http://www.conabio.gob.mx. [Accessed 19 Oct 2016]	"Apicultura. Néctar valioso para la producción de miel de alta calidad" [Beekeeping. Precious nectar for the production of high quality honey]
	Koptur, S. (1984). Outcrossing and pollinator limitation of fruit set: breeding systems of neotropical Inga trees (Fabaceae: Mimosoideae). Evolution, 38(5): 1130-1143	"The open flowers are visited by a wide array of visitors of which bats, hummingbirds, hawkmoths, butterflies, and settling moths are pollinators (Snow and Snow, 1972; Salas, 1974; Toledo, 1975; Feinsinger, 1976, 1978; Koptur, 1983)."

606	Reproduction by vegetative fragmentation	n
	Source(s)	**Notes**
	Useful Tropical Plants Database. (2016). Inga jinicuil. http://tropical.theferns.info/viewtropical.php?id=Inga+jinicuil. [Accessed 19 Oct 2016]	"Propagation: Seed - Greenwood cuttings."
	Brennan, E. B., & Mudge, K. W. (1998). Vegetative propagation of Inga feuillei from shoot cuttings and air layering. New Forests, 1 (1), 37-51	[No natural vegetative spread in related taxon] "The stem cutting and air layering techniques described here, may be useful for increasing the supply and year round availability of Inga feuillei D.C. which is limited due to viviparous germination and recalcitrant seeds."

607	Minimum generative time (years)	2
	Source(s)	**Notes**
	Tropicsphere. (2005). Jungle Forums - Inga jinicuil flowering. http://www.tropicsphere.com/main/forums/viewtopic.php?f=2&t=3924. [Accessed 19 Oct 2016]	"Another tropical tree flowering for the first time, Inga jinicuil, the Ice Cream Bean. It has only been in the ground 2 years and is about 15 ft. tall "
	CONAFOR: Sistema Nacional de Información Forestal. (2016). Inga jinicuil. http://www.conabio.gob.mx. [Accessed 19 Oct 2016]	"Especie de rápido crecimiento, especialmente si se planta en suelos de textura liviana, por debajo de los 800 m. de altitud, con precipitaciones de 900 a 1,500 mm., con estación seca marcada. La especie llega a crecer en altura de 2.4 a 2.9 m/año" [Translation: Fast growing species, especially if planted in light textured soils, below 800 m altitude, with rainfall of 900 to 1.500 mm., with a marked dry season. The species reaches grow in height 2.4 to 2.9 m / year]

701	Propagules likely to be dispersed unintentionally (plants growing in heavily trafficked areas)	n
	Source(s)	**Notes**
	Vozzo, J.A. 2002. Tropical Tree Seed Manual. USDA Forest Service, Washington, D.C.	"The fruits (legumes) are oblong, arched, 15 to 20 cm long, laterally flattened, thick, green, and dehiscent when ripe. Each fruit contains 12 to 18 seeds (Martinez 1987, Standley 1922). The seeds are oblong, laterally flattened, 24 to 32 mm long, by 12 to 18 mm wide, and 8 to 11 mm thick. The seedcoat is white, cottony, pulpy, sweet, succulent, and easily loosened from the embryo." [No evidence. No means of external attachment]

702	Propagules dispersed intentionally by people	y

Qsn #	Question	Answer
	Source(s)	**Notes**
	Hawaiian Tropical Plant Nursery. 2016. Edible Plants. http://www.hawaiiantropicalplants.com/fruit.html. [Accessed 19 Oct 2016]	"Inga jinicuil- Family: Fabaceae. Large pods are filled with white sweet pulp. Trees form a wide spreading low crown. Native to tropical forest of South America. Full sun. Well drained soil. Outdoors in Zones 10B and above."
	Vozzo, J.A. 2002. Tropical Tree Seed Manual. USDA Forest Service, Washington, D.C.	"Inga jinicuil is also cultivated as an ornamental tree."

703	Propagules likely to disperse as a produce contaminant	n
	Source(s)	**Notes**
	Vozzo, J.A. 2002. Tropical Tree Seed Manual. USDA Forest Service, Washington, D.C.	"Each fruit contains 12 to 18 seeds (Martinez 1987, Standley 1922). The seeds are oblong, laterally flattened, 24 to 32 mm long, by 12 to 18 mm wide, and 8 to 11 mm thick." [Fruit & seeds relatively large & unlikely to be inadvertently dispersed]

704	Propagules adapted to wind dispersal	n
	Source(s)	**Notes**
	Vozzo, J.A. 2002. Tropical Tree Seed Manual. USDA Forest Service, Washington, D.C.	"The fruits (legumes) are oblong, arched, 15 to 20 cm long, laterally flattened, thick, green, and dehiscent when ripe. Each fruit contains 12 to 18 seeds (Martinez 1987, Standley 1922). The seeds are oblong, laterally flattened, 24 to 32 mm long, by 12 to 18 mm wide, and 8 to 11 mm thick. The seedcoat is white, cottony, pulpy, sweet, succulent, and easily loosened from the embryo."

705	Propagules water dispersed	
	Source(s)	**Notes**
	Vozzo, J.A. 2002. Tropical Tree Seed Manual. USDA Forest Service, Washington, D.C.	"The species is part of the mountain mesophyll forests and the gallery forests that grow along rivers." ... "Each fruit contains 12 to 18 seeds (Martinez 1987, Standley 1922). The seeds are oblong, laterally flattened, 24 to 32 mm long, by 12 to 18 mm wide, and 8 to 11 mm thick." [Seeds reportedly animal-dispersed. Unknown if pods or seeds are buoyant, but could possibly be moved by water when growing near rivers]

706	Propagules bird dispersed	y
	Source(s)	**Notes**
	CONAFOR: Sistema Nacional de Información Forestal. (2016). Inga jinicuil. http://www.conabio.gob.mx. [Accessed 19 Oct 2016]	"Dispersión. Zoócora. Semilla dispersada por aves y mamíferos incluyendo el ganado y posiblemente caballos." [Translation: Dispersion. Zoochorous. Seed dispersed by birds and mammals including livestock and possibly horses.]

707	Propagules dispersed by other animals (externally)	
	Source(s)	**Notes**

Qsn #	Question	Answer
	CAB International, 2005. Forestry Compendium. CAB International, Wallingford, UK	"Seeds are dispersed by birds and mammals who eat the sweet pulp surrounding the seeds." [This information is provided for the related Inga edulis. Unknown whether the seeds are ingested by animals or if can also be carried externally.]

708	Propagules survive passage through the gut	y
	Source(s)	**Notes**
	CONAFOR: Sistema Nacional de Información Forestal. (2016). Inga jinicuil. http://www.conabio.gob.mx. [Accessed 19 Oct 2016]	[Translation from Spanish] "Dispersion. Zoochorous. Seed dispersed by birds and mammals including livestock and possibly horses." [Seeds presumably survive gut passage]

801	Prolific seed production (>1000/m2)	n
	Source(s)	**Notes**
	Vozzo, J.A. 2002. Tropical Tree Seed Manual. USDA Forest Service, Washington, D.C.	"The fruits (legumes) are oblong, arched, 15 to 20 cm long, laterally flattened, thick, green, and dehiscent when ripe. Each fruit contains 12 to 18 seeds (Martinez 1987, Standley 1922). The seeds are oblong, laterally flattened, 24 to 32 mm long, by 12 to 18 mm wide, and 8 to 11 mm thick." [Fairly large seeds & pods that lose viability rapidly. Unlikely to produce such high seed densities]

802	Evidence that a persistent propagule bank is formed (>1 yr)	n
	Source(s)	**Notes**
	Vozzo, J.A. 2002. Tropical Tree Seed Manual. USDA Forest Service, Washington, D.C.	"Because the seeds removed from the fruit die quickly from desiccation, they must be planted immediately in a bed of wet moss."

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	y
	Source(s)	**Notes**
	Nair, P.K.R. (1993). An Introduction to Agroforestry. Kluwe Academic Publishers, Dordrecht / Boston / London	[Coppices] "Table 12.1. Selected attributes of tree species widely used in tropical and subtropical agroforestry systems" [Inga spp. (I. edulis, I. jinicuil, I. vera) - Growth form and characteristics = 20m, coppices, wide crown]

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
• Elevation range exceeds 1000 m, demonstrating environmental versatility
• Grows in tropical climates
• Tolerates many soil types
• N-Fixing (may alter soil chemistry)
• Reproduces by seeds
• Seeds dispersed by birds, fruit-eating mammals & intentionally by people
• Reaches maturity in 2+ years (fast growth rate)
• Able to coppice & resprout after cutting

Low Risk Traits
• No reports of invasiveness or naturalization, but native range unclear due to cultivation
• Unarmed (no spines, thorns or burrs)
• Provides fodder for livestock
• Ornamental
• Requires full sun
• Self-Incompatible
• Not reported to spread vegetatively
• Seeds lose viability rapidly; unlikely to form a persistent seed bank

Second Screening Results for Tree/tree-like shrubs

(A) Shade tolerant or known to form dense stands?> No. Not known to form dense stands. A light demanding tree, & presumably shade intolerant
(B) Bird-dispersed?> Dispersed by birds
Outcome = Accept (Low Risk)