

Family: Fabaceae

Taxon: Pseudosamanea guachapele

Synonym: *Acacia guachapele* Kunth (*basionym*) **Common Name** brasilillo
Albizia guachapele (Kunth) Dugand cenicero
Albizia longipedata (Pittier) Britton & Rose e frijolillo guachapele
Pithecellobium longipedatum Pittier gavilán
chime tree

Questionnaire :	current 20090513	Assessor:	Chuck Chimera	Designation:	L
Status:	Assessor Approved	Data Entry Person:	Chuck Chimera	WRA Score	0
101	Is the species highly domesticated?		y=-3, n=0		n
102	Has the species become naturalized where grown?		y=1, n=-1		
103	Does the species have weedy races?		y=1, n=-1		
201	Species suited to tropical or subtropical climate(s) - If island is primarily wet habitat, then substitute "wet tropical" for "tropical or subtropical"		(0-low; 1-intermediate; 2-high) (See Appendix 2)		High
202	Quality of climate match data		(0-low; 1-intermediate; 2-high) (See Appendix 2)		High
203	Broad climate suitability (environmental versatility)		y=1, n=0		y
204	Native or naturalized in regions with tropical or subtropical climates		y=1, n=0		y
205	Does the species have a history of repeated introductions outside its natural range?		y=-2, ?=-1, n=0		y
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)		
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
406	Host for recognized pests and pathogens		y=1, n=0		n
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	
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	y=1, n=-1	n
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	y
705	Propagules water dispersed	y=1, n=-1	y
706	Propagules bird dispersed	y=1, n=-1	n
707	Propagules dispersed by other animals (externally)	y=1, n=-1	n
708	Propagules survive passage through the gut	y=1, n=-1	
801	Prolific seed production (>1000/m2)	y=1, n=-1	y
802	Evidence that a persistent propagule bank is formed (>1 yr)	y=1, n=-1	y
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 0

Supporting Data:

101	2005. CAB International. Forestry Compendium. CAB International, Wallingford, UK	No evidence
102	2011. WRA Specialist. Personal Communication.	NA
103	2011. WRA Specialist. Personal Communication.	NA
201	2005. CAB International. Forestry Compendium. CAB International, Wallingford, UK	"Its natural distribution ranges from Mexico to Bolivia (including Venezuela and Surinam)."
202	2005. CAB International. Forestry Compendium. CAB International, Wallingford, UK	"Its natural distribution ranges from Mexico to Bolivia (including Venezuela and Surinam)."
203	2005. CAB International. Forestry Compendium. CAB International, Wallingford, UK	"This species is found in drought deciduous forest and at the drier edges of gallery forest. It occurs at low elevations from 0-800 m, however it has been planted up to an altitude of 1200 m. <i>P. guachapele</i> requires an annual dry season of approximately 4-5 months. " [elevation range >1000 m, displays environmental versatility]
204	2005. CAB International. Forestry Compendium. CAB International, Wallingford, UK	"Its natural distribution ranges from Mexico to Bolivia (including Venezuela and Surinam)."
204	2011. World Agroforestry Center. Agroforestry Tree Database - <i>Pseudosamanea guachapele</i> . PROSEA, http://www.worldagroforestry.org/sea/Products/AFDbases/af/asp/SpeciesInfo.asp?SpID=18046	"Native : Bolivia, Colombia, Costa Rica, Ecuador, El Salvador, Guatemala, Nicaragua, Panama, Peru, Surinam, Venezuela"
205	2011. World Agroforestry Center. Agroforestry Tree Database - <i>Pseudosamanea guachapele</i> . PROSEA, http://www.worldagroforestry.org/sea/Products/AFDbases/af/asp/SpeciesInfo.asp?SpID=18046	"It has been tried in Egypt, Haiti, Honduras, India, Kenya, Mexico, USA and Zambia, where it has produced high amounts of wood biomass across all sites, with a mean woody biomass per tree of 4.05 kg...Exotic : Egypt, Haiti, Honduras, India, Kenya, Mexico, United States of America, Zambia"
301	2006. Tassin, J./Riviere, J.-N./Cazanove, M./Bruzzese, E.. Ranking of invasive woody plant species for management on Reunion Island. <i>Weed Research</i> . 46: 388–403.	"Table 1 Woody non-indigenous plants to Reunion Island and their invasive status" [<i>Pseudosamanea guachapele</i> on list, but not
301	2007. Randall, R.P.. Global Compendium of Weeds - <i>Pseudosamanea guachapele</i> [Online Database]. http://www.hear.org/gcw/species/pseudosamanea_guachapele/	Listed as naturalized in the Galapagos [but this is refuted by most recent records from the Charles Darwin Foundation 2011]
301	2011. The Charles Darwin Foundation. Galapagos Species Checklist - <i>Pseudosamanea guachapele</i> . http://www.darwinfoundation.org/datazone/checklists/vascular-plants/magnoliophyta/pseudosamanea-guachapele-kunth-harms/	"Taxon introduced for agricultural or domestic use; not naturalized."
302	2007. Randall, R.P.. Global Compendium of Weeds - <i>Pseudosamanea guachapele</i> [Online Database]. http://www.hear.org/gcw/species/pseudosamanea_guachapele/	No evidence
303	2007. Randall, R.P.. Global Compendium of Weeds - <i>Pseudosamanea guachapele</i> [Online Database]. http://www.hear.org/gcw/species/pseudosamanea_guachapele/	No evidence
304	2007. Randall, R.P.. Global Compendium of Weeds - <i>Pseudosamanea guachapele</i> [Online Database]. http://www.hear.org/gcw/species/pseudosamanea_guachapele/	No evidence
305	2003. Weber, E.. <i>Invasive Plant Species of the World. A Reference Guide to Environmental Weeds</i> . CABI Publishing, Wallingford, UK	<i>Albizia julibrissin</i> listed as an environmental weed of natural areas

305	2008. Rico Arce, M. de Lourdes/Gale, S.L./Maxted, N.. A taxonomic study of <i>Albizia</i> (Leguminosae: Mimosoideae: Ingeae) in Mexico and Central America. <i>Anales del Jardín Botánico de Madrid</i> . 65(2): 255-305.	"In our opinion, the poor sampling of taxa and low support of the synapomorphies do not provide strong evidence for the recognition of <i>Pseudosamanea</i> , and we treat <i>P. guachapele</i> as an <i>Albizia</i> ." [Currently recognized as <i>Pseudosamanea</i> by USDA, ARS, National Genetic Resources Program. Germplasm Resources Information Network - (GRIN)]
401	2005. CAB International. <i>Forestry Compendium</i> . CAB International, Wallingford, UK	No spines, thorns or burrs
402	2011. World Agroforestry Center. <i>Agroforestry Tree Database - Pseudosamanea guachapele</i> . PROSEA, http://www.worldagroforestry.org/sea/Products/AFDbases/af/asp/SpeciesInfo.asp?SpID=18046	"Shade or shelter: It has been found appropriate in silvopastoral and agroforestry practices; it is utilised in hedgerows, as a shade tree in pastures, and also in protection areas. Intercropping: Often used for shade in coffee plantations. Nitrogen fixing: <i>P. guachapele</i> is a valuable tree due to its multiple uses, such as the ability to fix nitrogen and soil improvement." [no evidence of allelopathic properties]
403	1978. Croat, T.B.. <i>Flora of Barro Colorado Island</i> . Stanford University Press, Stanford, CA	"Deciduous tree to 15 m tall" [No evidence, not parasitic]
404	2000. Stewart, J.L./Dunsdon, A.J.. The potential of some neotropical <i>Albizia</i> species and close relatives as fodder resources. <i>Agroforestry Systems</i> . 49: 17–30.	"In the preference test, however, <i>Pseudosamanea guachapele</i> and <i>Albizia niopoides</i> appeared much more palatable to sheep than any of the other species...Using a combination of these evaluation criteria, <i>H. occidentalis</i> and <i>P. guachapele</i> appear to be the species with the greatest potential for fodder use."
404	2011. World Agroforestry Center. <i>Agroforestry Tree Database - Pseudosamanea guachapele</i> . PROSEA, http://www.worldagroforestry.org/sea/Products/AFDbases/af/asp/SpeciesInfo.asp?SpID=18046	"Fodder: Browsed by animals during field trials in Malawi, has high potential as a fodder source. "
405	2011. World Agroforestry Center. <i>Agroforestry Tree Database - Pseudosamanea guachapele</i> . PROSEA, http://www.worldagroforestry.org/sea/Products/AFDbases/af/asp/SpeciesInfo.asp?SpID=18046	"Fodder: Browsed by animals during field trials in Malawi, has high potential as a fodder source. " [No evidence of toxicity to animals]
406	2003. Montagnini, F./Ugalde, L./Navarro, C.. Growth characteristics of some native tree species used in silvopastoral systems in the humid lowlands of Costa Rica. <i>Agroforestry Systems</i> . 59: 163–170.	"Three of the species tested in the present experiments are not recommended for silvopastoral systems due to poor growth or pest problems (<i>Stryphnodendron microstachyum</i> , <i>Pseudosamanea guachapele</i> , <i>Genipa americana</i>)."
406	2005. CAB International. <i>Forestry Compendium</i> . CAB International, Wallingford, UK	"Pests recorded Insects: <i>Agrotis Epicauta</i> <i>Leptoglossus Mocis latipes</i> (grass looper) <i>Ocideres</i> sp. <i>Phyllophaga</i> (white grubs) <i>Umbonia crassicornis</i> " [No evidence that the above are economic pests]
406	2011. World Agroforestry Center. <i>Agroforestry Tree Database - Pseudosamanea guachapele</i> . PROSEA, http://www.worldagroforestry.org/sea/Products/AFDbases/af/asp/SpeciesInfo.asp?SpID=18046	"Pests and diseases: <i>P. guachapele</i> may be susceptible to defoliation by ants (<i>Atta</i> sp.), which may slow growth. <i>Mocis latipes</i> defoliates mature trees. <i>Umbonia crassicornis</i> is an insect that attacks the shaft and young branches. Nursery seedlings are susceptible to attack by <i>Ocideres</i> sp., <i>Phyllophaga</i> sp., and the larvae of <i>Agrotis</i> sp., and rats (<i>Rattus</i> sp.) sometimes cause bark damage."
407	2005. CAB International. <i>Forestry Compendium</i> . CAB International, Wallingford, UK	No evidence
408	2011. World Agroforestry Center. <i>Agroforestry Tree Database - Pseudosamanea guachapele</i> . PROSEA, http://www.worldagroforestry.org/sea/Products/AFDbases/af/asp/SpeciesInfo.asp?SpID=18046	"It grows well in dry, poor and rocky soils, and even tolerates small fires." [no evidence that tree increases fire hazard in natural ecosystems]
409	2005. CAB International. <i>Forestry Compendium</i> . CAB International, Wallingford, UK	" <i>P. guachapele</i> is shade intolerant and requires plenty of light, however seedlings may withstand partial shade in the first two years."
410	2005. CAB International. <i>Forestry Compendium</i> . CAB International, Wallingford, UK	"It grows well in dry, poor and rocky soils, and even tolerates small fires...Soil descriptors - Soil texture: light; medium - Soil drainage: free - Soil reaction: neutral - Special soil tolerances: shallow; infertile" [No evidence regarding soil type requirement]
410	2011. World Agroforestry Center. <i>Agroforestry Tree Database - Pseudosamanea guachapele</i> . PROSEA, http://www.worldagroforestry.org/sea/Products/AFDbases/af/asp/SpeciesInfo.asp?SpID=18046	"It prefers light to medium textured freely draining neutral soils and has special tolerance to shallow, infertile soils."
411	1978. Croat, T.B.. <i>Flora of Barro Colorado Island</i> . Stanford University Press, Stanford, CA	"Deciduous tree to 15 m tall, tomentose to sparsely tomentose all over." [not climbing or smothering]

412	2010. Piotto, D./Craven, D./Montagnini, F./Alice, F.. Silvicultural and economic aspects of pure and mixed native tree species plantations on degraded pasturelands in humid Costa Rica. <i>New Forests</i> . 39: 369–385.	" <i>Calophyllum brasiliense</i> , <i>S. microstachyum</i> , <i>G. americana</i> and <i>P. guachapele</i> trees suffered complete mortality in pure plantations, primarily because of pests and disease, with some survival in mixed plantations." [Cultivated pure stands do poorly]
501	1978. Croat, T.B.. <i>Flora of Barro Colorado Island</i> . Stanford University Press, Stanford, CA	"Deciduous tree to 15 m tall..." [terrestrial]
503	2005. CAB International. <i>Forestry Compendium</i> . CAB International, Wallingford, UK	" <i>P. guachapele</i> is an important nitrogen-fixing tree which may reach 25-30 m in height with d.b.h. of 50-80 cm."
504	1978. Croat, T.B.. <i>Flora of Barro Colorado Island</i> . Stanford University Press, Stanford, CA	"Deciduous tree to 15 m tall" [not a geophyte]
601	2005. CAB International. <i>Forestry Compendium</i> . CAB International, Wallingford, UK	No evidence of substantial reproductive failure in native habitat
602	2005. CAB International. <i>Forestry Compendium</i> . CAB International, Wallingford, UK	"Annual seed production is high, and one kilogram contains 22,000-30,000 small seeds."
603	2008. Rico Arce, M. de Lourdes/Gale, S.L./Maxted, N.. A taxonomic study of <i>Albizia</i> (Leguminosae: Mimosoideae: Ingeae) in Mexico and Central America. <i>Anales del Jardín Botánico de Madrid</i> . 65(2): 255-305.	No evidence of hybridization
603	2011. WRA Specialist. Personal Communication.	Probably not - no evidence of hybridization in the genus <i>Albizia</i> , or <i>Pseudosamanea</i> , which comprise some well studied forestry species.
604	2011. WRA Specialist. Personal Communication.	Unknown
605	2002. Vozzo, J.A.. <i>Tropical Tree Seed Manual</i> . USDA Forest Service, Washington, D.C.	"The flowers are crowded in pedunculate, umbellate inflorescences; peduncles are ferruginous (Bentham 1875, Holdridge and Poveda 1975). Flowers are white or creamy, and pentamerous. The calyx is gamosepalous, valvate, narrow-campanulate, toothed apically, pubescent, and 6 to 7 mm long" [flower structure does not suggest requirements for specialized pollinators]
606	2011. World Agroforestry Center. <i>Agroforestry Tree Database - Pseudosamanea guachapele</i> . PROSEA, http://www.worldagroforestry.org/sea/Products/AFDbases/af/asp/SpeciesInfo.asp?SpID=18046	"Can be propagated vegetatively by stem cuttings. Rooting success rates are increased, 70-100%, in the presence of IBA. After germination in a seedbed, the seedlings may be transplanted either into bags or back to the nursery for the production of bare root and stump plants. In Costa Rica trials indicate that stump plants achieved a higher survival rate and also the best increment in height, in comparison with container plants." [No evidence of natural reproductive by vegetative means]
607	2002. Vozzo, J.A.. <i>Tropical Tree Seed Manual</i> . USDA Forest Service, Washington, D.C.	"On the Osa Peninsula, 9- year-old juveniles reached 12 to 14 m in height and 10 to 12 cm d.b.h. (Tresemer 1989). In the dry tropical forest areas of Costa Rica, seedlings produced from Costa Rican seeds grow faster than those from Honduran seeds; 3 year-old saplings reached an average height of 3.53 m and an average d.b.h. of 6 cm (Paterson and others 1996a)." [still in juvenile state after 9 years]
607	2008. Rico Arce, M. de Lourdes/Gale, S.L./Maxted, N.. A taxonomic study of <i>Albizia</i> (Leguminosae: Mimosoideae: Ingeae) in Mexico and Central America. <i>Anales del Jardín Botánico de Madrid</i> . 65(2): 255-305.	"...a fast growing tree and produces large quantities of seed with a high germination rate; it is often cultivated."
607	2010. Craven, D./Dent, D./Braden, D./Ashton, M.S./Berlyn, G.P./Hall, J.S.. Seasonal variability of photosynthetic characteristics influences growth of eight tropical tree species at two sites with contrasting precipitation in Panama. <i>Forest Ecology and M</i>	"Rio Hato, the fastest growing species - <i>P. guachapele</i> and <i>T. grandis</i> - were among the most tolerant to seasonal drought"
701	2002. Vozzo, J.A.. <i>Tropical Tree Seed Manual</i> . USDA Forest Service, Washington, D.C.	"Seeds are ovate, laterally compressed, 0.8 to 0.9 cm long, 0.45 to 0.55 cm wide, 1.0 to 1.2 cm thick, and without funicular aril." [no evidence of naturalization, and no means of external attachment of seeds or pods]
702	2005. CAB International. <i>Forestry Compendium</i> . CAB International, Wallingford, UK	" <i>P. guachapele</i> is a valuable tree due to its multiple uses, such as the ability to fix nitrogen, soil improvement, production of woody biomass and appropriate in silvopastoral and agroforestry practices it is utilized in hedgerows, as a shade tree in pastures, and also in protection areas."
703	2002. Vozzo, J.A.. <i>Tropical Tree Seed Manual</i> . USDA Forest Service, Washington, D.C.	"Seeds are ovate, laterally compressed, 0.8 to 0.9 cm long, 0.45 to 0.55 cm wide, 1.0 to 1.2 cm thick, and without funicular aril." [No evidence that fairly large seeds contaminate produce]

704	2010. Celis, G./Jose, S.. Restoring abandoned pasture land with native tree species in Costa Rica: Effects of exotic grass competition and light. <i>Forest Ecology and Management</i> . doi:10.1016/j.foreco.2010.10.005: .	"Pseudosamanea guachapele (Kunth) Harms (Fabaceae) reaches 20–30 m in height and is water and wind dispersed."
705	2010. Celis, G./Jose, S.. Restoring abandoned pasture land with native tree species in Costa Rica: Effects of exotic grass competition and light. <i>Forest Ecology and Management</i> . doi:10.1016/j.foreco.2010.10.005: .	"Pseudosamanea guachapele (Kunth) Harms (Fabaceae) reaches 20–30 m in height and is water and wind dispersed."
706	2006. Amarillo-Suarez, A.R./Fox, C.W.. Population differences in host use by a seed-beetle: local adaptation, phenotypic plasticity and maternal effects. <i>Oecologia</i> . 150: 247–258.	"Pseudosamanea guachapele (Fabaceae) is a medium to large tree that grows mostly in pastures and dry areas from Guatemala to Ecuador. The dehiscent fruits have 10–25 small, oval, laterally compressed cream-colored seeds that vary in mass from 18 to 46 mg." [no evidence of or adaptations for bird dispersal]
707	2002. Vozzo, J.A.. <i>Tropical Tree Seed Manual</i> . USDA Forest Service, Washington, D.C.	"Seeds are ovate, laterally compressed, 0.8 to 0.9 cm long, 0.45 to 0.55 cm wide, 1.0 to 1.2 cm thick, and without funicular aril." [No evidence, and no means of external attachment of seeds or pods]
708	2011. WRA Specialist. Personal Communication.	Unknown. No evidence of ingestion by livestock or other animals, but plant is used for fodder, so potential exists.
801	2005. CAB International. <i>Forestry Compendium</i> . CAB International, Wallingford, UK	"Annual seed production is high, and one kilogram contains 22,000-30,000 small seeds."
802	2002. Vozzo, J.A.. <i>Tropical Tree Seed Manual</i> . USDA Forest Service, Washington, D.C.	"The seeds are hard and orthodox, and viability under storage at ambient temperature (24 to 32° C) slowly declines. The seeds are frequently attacked by weevils (Nichols and González 1992a, 1992b). Seeds can be stored for 2 years and maintain acceptable germination success."
802	2005. CAB International. <i>Forestry Compendium</i> . CAB International, Wallingford, UK	"The seeds can be stored at low humidity and low temperature for a considerable amount of time. Some form of pre-germination treatment is recommended."
802	2006. Sautu, A./Baskin, J.M./Baskin, C.C./Condit, R.. Studies on the seed biology of 100 native species of trees in a seasonal moist tropical forest, Panama, Central America. <i>Forest Ecology and Management</i> . 234: 245–263.	"Mechanical scarification increased germination percentages of seeds of <i>Colubrina glandulosa</i> , <i>Sapindus saponaria</i> , <i>Pseudosamanea guachapele</i> , <i>Enterolobium cyclocarpum</i> , and <i>E. schomburgkii</i> ." [requires scarification to break dormancy]
803	2011. WRA Specialist. Personal Communication.	Unknown. No evidence that <i>P. guachapele</i> is being controlled with herbicides.
804	2005. CAB International. <i>Forestry Compendium</i> . CAB International, Wallingford, UK	"It grows well in dry, poor and rocky soils, and even tolerates small fires...-Tolerates drought; fire; weeds"
804	2011. World Agroforestry Center. <i>Agroforestry Tree Database - Pseudosamanea guachapele</i> . PROSEA, http://www.worldagroforestry.org/sea/Products/AFDbases/af/asp/SpeciesInfo.asp?SpID=18046	"Stand establishment mainly through stump plants, natural regeneration and planting stock."
805	2011. WRA Specialist. Personal Communication.	Unknown