Taxon: Cedrela odorata

Family: Meliaceae

Common Name(s): Barbados cedar
cedro hembra
cigar box cedar
Mexican cedar
Spanish cedar
West Indian cedar

Synonym(s): Cedrela glaziovii C. DC.
Cedrela mexicana M. Roem.

Assessor: Chuck Chimera **Status:** Approved **End Date:** 5 Aug 2025

WRA Score: 7.0 **Designation:** H(HPWRA) **Rating:** High Risk

Keywords: Timber Tree, Naturalized, Environmental Weed, Self-Incompatible, Wind-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	y = 1*multiplier (see Appendix 2), n = question 205	y
302	Garden/amenity/disturbance weed		
303	Agricultural/forestry/horticultural weed	y = 2*multiplier (see Appendix 2), n = 0	n
304	Environmental weed	y = 2*multiplier (see Appendix 2), n = 0	y
305	Congeneric weed	y = 1*multiplier (see Appendix 2), n = 0	n
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	y = 1, n = -1	y
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		

Qsn #	Question	Answer Option	Answer
408	Creates a fire hazard in natural ecosystems	y = 1, n = 0	y
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	y
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	y = 1, n = -1	n
605	Requires specialist pollinators	y = -1, n = 0	n
606	Reproduction by vegetative fragmentation	y = 1, n = -1	n
607	Minimum generative time (years)	1 year = 1, 2 or 3 years = 0, 4+ years = -1	>3
701	Propagules likely to be dispersed unintentionally (plants growing in heavily trafficked areas)	y = 1, n = -1	n
702	Propagules dispersed intentionally by people	y = 1, n = -1	y
703	Propagules likely to disperse as a produce contaminant	y = 1, n = -1	y
704	Propagules adapted to wind dispersal	y = 1, n = -1	y
705	Propagules water dispersed		
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	n
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	y = -1, n = 1	y
804	Tolerates, or benefits from, mutilation, cultivation, or fire	y = 1, n = -1	n
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**
	CAB International. (2005). Forestry Compendium. CAB International, Wallingford, UK	No evidence

102	**Has the species become naturalized where grown?**	
	Source(s)	**Notes**
	WRA Specialist. (2025). Personal Communication	NA

103	**Does the species have weedy races?**	
	Source(s)	**Notes**
	WRA Specialist. (2025). 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**
	Burns, R.M. & Honkala, B.H. (1990). Silvics of North America. Volume 2: Hardwoods. Agriculture Handbook 654. U.S. Department of Agriculture, Forest Service, Washington, DC.	"Cedro is a tree of the New World tropics, appearing in forests of moist and seasonally dry Subtropical or Tropical life zones (24) from latitude 26° N. on the Pacific coast of Mexico, throughout Central America and the West Indies, to the lowlands and foothills of most of South America up to 1200 m (about 4,000 ft) altitude, finding its southern limit at about latitude 28° S. in Argentina (12,55)."
	USDA, Agricultural Research Service, National Plant Germplasm System. (2025). Germplasm Resources Information Network (GRIN-Taxonomy). National Germplasm Resources Laboratory, Beltsville, Maryland. https://npgsweb.ars-grin.gov/gringlobal/taxon/taxonomysearch. [Accessed 4 Aug 2025]	"Native Northern America NORTHERN MEXICO: Mexico [Chihuahua, Durango, Nuevo León, San Luis Potosí, Sonora, Tamaulipas, Zacatecas] SOUTHERN MEXICO: Mexico [Aguascalientes, Campeche, Chiapas, Colima, Guanajuato, Guerrero, Hidalgo, Jalisco, México, Michoacán de Ocampo, Morelos, Nayarit, Oaxaca, Puebla, Querétaro, Quintana Roo, Tabasco, Veracruz de Ignacio de la Llave, Yucatán] Southern America CARIBBEAN: Netherlands Antilles [Curacao], Antigua and Barbuda, Barbados, Cuba, Cayman Islands, Dominica, Dominican Republic, Guadeloupe, Grenada, Haiti, Jamaica, St. Lucia, Martinique, Trinidad and Tobago, United States [Puerto Rico] CENTRAL AMERICA: Belize, Costa Rica, Guatemala, Honduras, Nicaragua, Panama, El Salvador NORTHERN SOUTH AMERICA: French Guiana, Guyana, Suriname, Venezuela BRAZIL: Brazil WESTERN SOUTH AMERICA: Bolivia, Ecuador, Peru SOUTHERN SOUTH AMERICA: Argentina"

202	**Quality of climate match data**	**High**
	Source(s)	**Notes**

Qsn #	Question	Answer
	USDA, Agricultural Research Service, National Plant Germplasm System. (2025). Germplasm Resources Information Network (GRIN-Taxonomy). National Germplasm Resources Laboratory, Beltsville, Maryland. https://npgsweb.ars-grin.gov/gringlobal/taxon/taxonomysearch. [Accessed 4 Aug 2025]	"Native Northern America NORTHERN MEXICO: Mexico [Chihuahua, Durango, Nuevo León, San Luis Potosí, Sonora, Tamaulipas, Zacatecas] SOUTHERN MEXICO: Mexico [Aguascalientes, Campeche, Chiapas, Colima, Guanajuato, Guerrero, Hidalgo, Jalisco, México, Michoacán de Ocampo, Morelos, Nayarit, Oaxaca, Puebla, Querétaro, Quintana Roo, Tabasco, Veracruz de Ignacio de la Llave, Yucatán] Southern America CARIBBEAN: Netherlands Antilles [Curacao], Antigua and Barbuda, Barbados, Cuba, Cayman Islands, Dominica, Dominican Republic, Guadeloupe, Grenada, Haiti, Jamaica, St. Lucia, Martinique, Trinidad and Tobago, United States [Puerto Rico] CENTRAL AMERICA: Belize, Costa Rica, Guatemala, Honduras, Nicaragua, Panama, El Salvador NORTHERN SOUTH AMERICA: French Guiana, Guyana, Suriname, Venezuela BRAZIL: Brazil WESTERN SOUTH AMERICA: Bolivia, Ecuador, Peru SOUTHERN SOUTH AMERICA: Argentina"

203	Broad climate suitability (environmental versatility)	y
	Source(s)	**Notes**
	Burns, R.M. & Honkala, B.H. (1990). Silvics of North America. Volume 2: Hardwoods. Agriculture Handbook 654. U.S. Department of Agriculture, Forest Service, Washington, DC.	"Cedro is a climatic generalist, found over a wide geographic range of warm latitudinal belts, from Subtropical Dry Forest (wet transitional part) in Mexico and parts of the West Indies, through Subtropical Moist Forest to Subtropical Wet Forest in the West Indies and Central America, to Tropical Moist and Wet and Tropical Premontane Moist and Wet life zones in the equatorial regions (24). It is most abundant in the lowlands and foothills (other species, C. montana and C. lilloi, replace it at higher elevations) in moist forests. Its distribution is within the frost-free tropics for the most part, although it has been collected at latitudes 26° N. and 28° S., where occasional light frosts can be expected (26,55). Mean temperatures of 23° to 26° C (73° to 79° F) are found in the Caribbean part of its range; in tropical South America mean temperature is slightly higher, 28° C (82° F), with a mean minimum of 23° C (73° F) and a mean maximum of 32° C (90° F). At the southern limit of its range in Argentina the mean temperature is 24° C (75° F); mean maximum temperature is 30° C (86° F) and mean minimum is 18° C (64° F) (16,34,60)."
	CAB International. (2005). Forestry Compendium. CAB International, Wallingford, UK	"Climatic amplitude (estimates) - Altitude range: 0 - 1500 m - Mean annual rainfall: 1200 - 2500 mm - Rainfall regime: summer; uniform - Dry season duration: 2 - 4 months - Mean annual temperature: 20 - 32ºC - Mean maximum temperature of hottest month: 27 - 36ºC - Mean minimum temperature of coldest month: 11 - 22ºC - Absolute minimum temperature: > -1ºC"

204	Native or naturalized in regions with tropical or subtropical climates	y
	Source(s)	**Notes**
	Burns, R.M. & Honkala, B.H. (1990). Silvics of North America. Volume 2: Hardwoods. Agriculture Handbook 654. U.S. Department of Agriculture, Forest Service, Washington, DC.	"Cedro is a tree of the New World tropics, appearing in forests of moist and seasonally dry Subtropical or Tropical life zones (24) from latitude 26° N. on the Pacific coast of Mexico, throughout Central America and the West Indies, to the lowlands and foothills of most of South America up to 1200 m (about 4,000 ft) altitude, finding its southern limit at about latitude 28° S. in Argentina (12,55)."

Qsn #	Question	Answer
	USDA, Agricultural Research Service, National Plant Germplasm System. (2025). Germplasm Resources Information Network (GRIN-Taxonomy). National Germplasm Resources Laboratory, Beltsville, Maryland. https://npgsweb.ars-grin.gov/gringlobal/taxon/taxonomysearch. [Accessed 4 Aug 2025]	"Naturalized Africa REGION: Africa (tropical) Northern America REGION: United States (s.e.) Southern America WESTERN SOUTH AMERICA: Ecuador [Galápagos]"
	Starr, F., Starr, K. & Loope, L.L. (2006). New plant records from the Hawaiian Archipelago. Bishop Museum Occasional Papers 87: 31-43	[Maui] "In the state of Hawai'i, over 26,000 C. odorata trees were planted from 1910–1960 (Skolmen, 1960). About 9,000 of these were planted on the island of Maui in the vicinities of Hana, Ko'olau, and Makawao (Skolmen, 1960). Cedrela odorata is now naturalized in these areas and is spreading from forestry plantations into nearby lowland disturbed wet forest. This collection documents this species on Maui and represents a new naturalized record for the state of Hawai'i."

205	Does the species have a history of repeated introductions outside its natural range?	y
	Source(s)	**Notes**
	Staples, G.W. & Herbst, D.R. (2005). A Tropical Garden Flora - Plants Cultivated in the Hawaiian Islands and Other Tropical Places. Bishop Museum Press, Honolulu, HI	"A timber tree, Cedrela odorata Linnaeus [Misapplied: Toona febrifuga], spanish-cedar or west indian-cedar, was once used in joinery and was a favored wood for cigar boxes and cabinetry. It is a deciduous tree up to 100' tall with fissured grayish bark and even-pinnate leaves with usually 8 opposite pairs of ovate to oblong, somewhat sickle-shaped leaflets; yellowish flowers with the ovary raised on a columnar disk longer than the ovary; capsules up to 1.5" long; and seeds 0.8–1.25" long, light brown, and winged only in the lower part. It is native from both coasts of Mexico through lowland South America as far south as Argentina and throughout the West Indies and has been widely planted as a timber crop in other tropical regions."
	CAB International. (2005). Forestry Compendium. CAB International, Wallingford, UK	"It is widely planted throughout the tropics and its timber is well known for its use in cigar boxes and a broad range of other products, including musical instruments."

301	Naturalized beyond native range	y
	Source(s)	**Notes**
	BioNET-EAFRINE. (2025). Cedrela odorata (Cedarwood). http://keys.lucidcentral.org/keys/v3/eafrinet/weeds/key/weeds/Media/Html/Cedrela_odorata_%28Cedarwood%29.htm. [Accessed 4 Aug 2025]	"Cedrela odorata is invasive in parts of Tanzania (Tropical Biology Association 2010) (Global Invasive Species Database). It has been introduced to Kenya and Uganda. It has been listed as an invasive species in the Amani Nature Reserve, in the East Usambara Mountains in northeast Tanzania."
	Odeniyi, M. A., Babalola, A. O., & Ayorinde, J. O. (2013). Evaluation of Cedrela gum as a binder and bioadhesive component in ibuprofen tablet formulations. Brazilian Journal of Pharmaceutical Sciences, 49(1), 95-105	"Cedrela odorata, the most common species among the Cedrela, is widespread in seasonally dry tropical and subtropical forests. It is an important timber tree and has become naturalised in Africa and southeast Asia."
	USDA, Agricultural Research Service, National Plant Germplasm System. (2025). Germplasm Resources Information Network (GRIN-Taxonomy). National Germplasm Resources Laboratory, Beltsville, Maryland. https://npgsweb.ars-grin.gov/gringlobal/taxon/taxonomysearch. [Accessed 4 Aug 2025]	"Naturalized Africa REGION: Africa (tropical) Northern America REGION: United States (s.e.) Southern America WESTERN SOUTH AMERICA: Ecuador [Galápagos]"

Qsn #	Question	Answer
	Mauchamp, A. (1997). Threats from alien plant species in the Galápagos Islands. Conservation Biology, 11: 260-263	"Today, 2.5% of the alien species, 5.6% of the naturalized alien species, are actually aggressive and represent a serious threat to native ecosystems. These invasive species, which are only present on inhabited islands, are Psidium guajava , Rubus niveus , Cinchona succirubra , Lantana camara , Kalanchoe pinnata , Pennisetum clandestinum , Pennisetum purpureum , Cedrela odorata , Eugenia jambos , Passiflora edulis , and Cestrum auriculatum." ... "Today, two of the invasive species are still planted despite their known behavior, Pennisetum purpureum for pasture and the fast-growing tree Cedrela odorata for its wood (its light, wind-borne seeds facilitate colonization of park areas)."
	Starr, F., Starr, K. & Loope, L.L. (2006). New plant records from the Hawaiian Archipelago. Bishop Museum Occasional Papers 87: 31-43	[Maui] "In the state of Hawai'i, over 26,000 C. odorata trees were planted from 1910–1960 (Skolmen, 1960). About 9,000 of these were planted on the island of Maui in the vicinities of Hana, Ko'olau, and Makawao (Skolmen, 1960). Cedrela odorata is now naturalized in these areas and is spreading from forestry plantations into nearby lowland disturbed wet forest. This collection documents this species on Maui and represents a new naturalized record for the state of Hawai'i. Cedrela odorata was also planted in mass on Kaua'i, O'ahu, Moloka'i, and Hawai'i, and should be investigated on those islands to determine if similar spread from plantations is occurring. Material examined. MAUI: East Maui, Nua'ailua, Häna Hwy, near Keanae in small gulch east of Nua'ailua bay, established in the area, numerous seedlings, saplings, and large adult trees observed, 200 ft [60 m], 29 Nov 2000, Starr & Starr 030807-1."

302	Garden/amenity/disturbance weed	
	Source(s)	**Notes**
	Csurhes, S. & Edwards, R. (1998). Potential environmental weeds in Australia: Candidate species for preventative control. Biodiversity Group, Environment Australia, Canberra, Australia	[A disturbance adapted tree with negative environmental impacts] "C. odorata has the potential to rapidly colonise disturbed sites in tropical and sub tropical rainforests, primarily along riverbanks and forest edges in areas where rainfall exceeds 1000mm per annum."

303	Agricultural/forestry/horticultural weed	n
	Source(s)	**Notes**
	Randall, R.P. (2017). A Global Compendium of Weeds. 3rd Edition. Perth, Western Australia. R.P. Randall	No evidence

304	Environmental weed	y
	Source(s)	**Notes**
	Csurhes, S. & Edwards, R. (1998). Potential environmental weeds in Australia: Candidate species for preventative control. Biodiversity Group, Environment Australia, Canberra, Australia	"C. odorata has been recorded as a weed in 22 countries (Holm et al. 1979). Under favourable conditions, it forms dense thickets 2-5m high, choking out all other vegetation. In South Africa, C. odorata is a significant weed in national parks (MacDonald 1983). In India, Nigeria and south-west China, it forms dense, tangled masses in plantations of teak and other trees."

Qsn #	Question	Answer
	CABI. (2025). CABI Compendium Invasive Species. https://www.cabidigitallibrary.org/product/qi. [Accessed 4 Aug 2025]	"C. odorata is replaces native plants by blocking out sunlight with its large leaves. It can spread very quickly due to prolific seed production and wind dispersal, quickly invading disturbed areas and interferingwith natural succession processes. Dense growths of the plant are likely to increase the frequency and intensity of fires, disturbing the forest further and allowing C. odorata and other invasive plants to become widely established.Invasion ofC. odorata is threatening the native biodiversity of species in transition zone forests on Santa Cruz Island, and is likely to be reducing biodiversity of native species through direct competition in other areas where it is becoming invasive. It does have positive environmental effects also, however, for shade on crops, people and animals."
	BioNET-EAFRINE. (2025). Cedrela odorata (Cedarwood). http://keys.lucidcentral.org/keys/v3/eafrinet/weeds/key/weeds/Media/Html/Cedrela_odorata_%28Cedarwood%29.htm. [Accessed 4 Aug 2025]	"Cedrela odorata displaces native plants by blocking out sunlight with its large leaves. It spreads very quickly due to prolific seed production and wind dispersal. C. odorata quickly invades the disturbed areas, blocking natural succession processes. Dense growths of the plant are likely to increase the frequency and intensity of fires. the increase risk may disrupt settlements and affect economic benefits of forests such as timber. C. odorata has been included in the Global Invasive Species Database (GISD 2006)."
	Blake, S., Cabrera, F., Rivas-Torres, G., Deem, S. L., Nieto-Claudin, A., Zahawi, R. A., & Bastille-Rousseau, G. (2024). Invasion by Cedrela odorata threatens long distance migration of Galapagos tortoises. Ecology and Evolution, 14(2), e10994	"Invasive alien species are among the most pervasive threats to biodiversity. Invasive species can cause catastrophic reductions in populations of native and endemic species and the collapse of ecosystem function. A second major global conservation concern is the extirpation of large-bodied mobile animals, including long-distance migrants, which often have keystone ecological roles over extensive spatial extents. Here, we report on a potentially catastrophic synergy between these phenomena that threatens the endemic biota of the Galapagos Archipelago. We used GPS telemetry to track 140 migratory journeys by 25 Western Santa Cruz Island Galapagos tortoises. We plotted the spatial interaction between tortoise migrations and recently established non-native forest dominated by the invasive tree Cedrela odorata (Cedrela forest). We qualified (a) the proportion of migratory journeys that traversed Cedrela forest, and (b) the probability that this observed pattern occurred by chance. Tortoise migrations were overwhelmingly restricted to small corridors between Cedrela forest blocks, indicating clear avoidance of those blocks. Just eight of 140 migrations traversed extensive Cedrela stands. Tortoises avoid Cedrela forest during their migrations. Further expansion of Cedrela forest threatens long-distance migration and population viability of critically endangered Galapagos tortoises. Applied research to determine effective management solutions to mitigate Cedrela invasion is a high priority."
	Van der Meersch, V., Zo-Bi, I. C., Amani, B. H., N'dja, J. K., N'guessan, A. E., & Herault, B. (2021). Causes and consequences of Cedrela odorata invasion in West African semi-deciduous tropical forests. Biological Invasions, 23 (2), 537-552	"Regarding the consequences, Cedrela odorata invasion doesn't have any significant impact on the above-ground biomass but has a strong negative effect on the tree community diversity, as far as decreasing Simpson diversity in Hill numbers from 27 equivalent species in slightly invaded plots to 2 equivalent species in largely invaded plots. Our results highlight the long-lasting impacts of human disturbance (fire, Cedrela odorata introduction) on forest ecosystems and the need to use local species for ongoing reforestation plans in West African semideciduous forests."

Qsn #	Question	Answer
	Kilawe, C. J., Baltazary, I. S., Malila, B. P., Lyimo, P. J., & Mwakalukwa, E. E. (2023). Replacement of native trees by the neotropical invasive tree Cedrela odorata L. in the Kimboza Forest Reserve, Tanzania. Biological Invasions, 25(12), 3697-3710	"The last remnants of lowland forests in eastern Africa are biodiversity hotspots as they host a unique set of endemic animal and plant species. However, the diversity of the forests is threatened by man-made disturbances, including the introduction of non-native plant species. Here, we assessed the current extent and drivers of the spread of the invasive neotropical tree, Cedrela odorata L., introduced to Kimboza Forest Reserve in 1957 and 1960. We also assessed the impacts of the invasion on the composition of native tree recruitment (height < 0.5 m). The extent of invasion and drivers was assessed in 107 square plots (10 × 10 m) and 240 subplots (2 × 2 m) distributed systematically throughout the forest. The impact of C. odorata was assessed in 24 paired square sample plots (10 × 10 m) that were established in forest patches invaded and uninvaded by C. odorata. By 2017, adult C. odorata trees (diameter at breast height (DBH) ≥ 10 cm) occurred in 43% of plots and comprised, on average, 32% of the stems of all tree species and 28% of the basal area. The occurrence of C. odorata in the forest was significantly associated with the occurrences of wildfire and illegal logging, and significantly affected the density of native tree recruitments, Sorindeia madagascariensis and Rinorea arborea but did not affect the species diversity. Management actions are needed to reduce the negative impacts of invaded forest patches and prevent the uninvaded forest patches from invasion."
	Tye, A., Soria, M. C., & Gardener, M. R. (2002). A strategy for Galapagos weeds. Pp. 336-341 in Veitch, CR and MN Clout. Turning the tide: the eradication of invasive species. IUCN, Gland, Switzerland	"There have been few rigorous studies of the effects of the invasions, but some species have caused drastic habitat changes, forming monospecific stands, shading out or otherwise replacing native vegetation communities, or preventing seedling regeneration by forming impenetrable carpets. Where detailed studies have been made, dramatic community changes have been revealed (Jäger 1999). The worst effects seem to be caused by woody species, especially trees such as Psidium guajava, Cedrela odorata and Cinchona pubescens,..." ... "Control is undertaken where eradication is not currently considered feasible but where the plant is considered to pose a significant conservation risk. Such plants include most of the most serious invaders, such as Rubus niveus, Lantana camara, vines such as Passiflora edulis, and very widespread invasive trees such as Psidium guajava and Cedrela odorata."
	Mauchamp, A. (1997). Threats from alien plant species in the Galápagos Islands. Conservation Biology, 11: 260-263	"Today, 2.5% of the alien species, 5.6% of the naturalized alien species, are actually aggressive and represent a serious threat to native ecosystems. These invasive species, which are only present on inhabited islands, are Psidium guajava , Rubus niveus , Cinchona succirubra , Lantana camara , Kalanchoe pinnata , Pennisetum clandestinum , Pennisetum purpureum , Cedrela odorata , Eugenia jambos , Passiflora edulis , and Cestrum auriculatum." ... "Today, two of the invasive species are still planted despite their known behavior, Pennisetum purpureum for pasture and the fast-growing tree Cedrela odorata for its wood (its light, wind-borne seeds facilitate colonization of park areas)."

305	Congeneric weed	n
	Source(s)	**Notes**
	Randall, R.P. (2017). A Global Compendium of Weeds. 3rd Edition. Perth, Western Australia. R.P. Randall	Cedrela mexicana listed in some references as an agricultural weed, but cited references provide no detail on negative impacts.
	WRA Specialist. (2025). Personal Communication	No documented reports of other Cedrela species (e.g., C. fissilis, C. lilloi, C. montana) being invasive or causing significant ecological harm outside their native ranges have been found.

401	Produces spines, thorns or burrs	n

Qsn #	Question	Answer
	Source(s)	**Notes**
	Lemmens, R.H.M.J. (2008), Cedrela odorata L. In: Louppe, D., Oteng-Amoako, A.A. & Brink, M. (Editors). Prota 7(1): Timbers/Bois d'œuvre 1. [CD-Rom]. PROTA, Wageningen, Netherlands	"Deciduous or evergreen, monoecious, medium-sized to large tree up to 40(-50) m tall; bole branchless for up to 20(-25) m, up to 180(-300) cm in diameter, without buttresses or with low, blunt buttresses at base; bark surface greyish brown to reddish brown, fissured, inner bark pinkish brown; crown rounded; young branches with lenticels. Leaves alternate, paripinnately compound with (5-)6-14(-15) pairs of leaflets; stipules absent; rachis slightly hairy or glabrous; petiolules up to 2 cm long; leaflets ovate to oblong-lanceolate, 5-17 cm × 2.5-7 cm, asymmetric at base, acute or acuminate at apex, entire, glabrous, pinnately veined. Inflorescence a terminal, much-branched, pendent panicle up to 50 cm long, glabrous or slightly hairy."

402	Allelopathic	
	Source(s)	**Notes**
	CAB International. (2005). Forestry Compendium. CAB International, Wallingford, UK	"It is also used as an agroforestry species in cocoa and coffee plantations (Lemmens et al., 1995)."
	Abugre, S., Apetorgbor, A. K., Antwiwaa, A., & Apetorgbor, M. M. (2011). Allelopathic effects of ten tree species on germination and growth of four traditional food crops in Ghana. Journal of Agricultural Technology, 7(3), 825-834	[Demonstrates allelopathic properties on Hibiscus esculentus seed germination] "Tree species selection to inter-cultivate with food crops has often been made on the basis of traditional knowledge by farmers in Ghana. Lately, Taungya system has been introduced to enable farmers produce food and at the same time retain the forest cover in communities bordering forest reserves. Fresh matured leaves and roots extracts of ten tree species were examined for their allelopathic effects on four agricultural crops to explore the allelopathic potential of the tree species and to recommend the appropriate tree species to be used under the Modified Taungya System in Ghana. Germination of Hibiscus esculentus seeds was significantly reduced in all the root and leaf extracts while germination of Zea mays seeds increased in all the root extracts except in that of Terminalia superba. Roots extract of Senna siamea promoted germination of both Zea mays and Lycopersicon esculentum seeds. Plumule and radicle extension of seedlings of the four crops were significantly reduced by all the root and leaf extracts with the exception of Zea mays whose plumule and radicle development was increased by Eucalyptus grandis leaf extracts. On the basis of the results obtained in this study the following tree species (Senna siamea, Albizzia lebbeck, and Jatropha curcas) could be recommended for planting."

Qsn #	Question	Answer
	Rivas-Torres, G., & Rivas, M. G. (2018). Allelopathic impacts of the invasive tree Cedrela odorata L.(Meliaceae, Sapindales= Magnoliidae) in the Galapagos Flora. In Understanding invasive species in the Galapagos Islands: From the molecular to the landscape (pp. 77-93). Cham: Springer International Publishing	[Extracts demonstrate allelopathic effects] "Some non-native plant species present the potential to outcompete native plants and have the capacity to spread quickly and colonize recipient areas, becoming invasive. One of the most known and widely tested mechanisms promoting invasive plant colonization is allelopathy or the potential that certain plant species have to produce chemical compounds that inhibit germination or growth of native species. Despite of the wide range of plant habitats and ecological levels where allelopathy has been recorded to occur, there are comparatively very few studies detailing the presence of this explanatory mechanism in one of the most invaded biomes of the globe, oceanic islands. Here, we evaluated the potential allelopathic effect of a highly invasive tree, Cedrela odorata, over germination and growth of invasive and native species recorded in one island of the Galapagos archipelago, Santa Cruz. We found that Cedrela extracts (from roots and leafs) didn't affect germination of the tested species but caused a significant negative effect on growth (height and dry weight) of the endemic and highly threatened tree Scalesia pedunculata. The negative impact that Cedrela extracts have over Scalesia seedlings is particularly relevant, as this endemic tree used to dominate the highlands of Santa Cruz and is now in direct competition with this invasive plant. Overall, the results of this chapter are expected to help managers to understand that the mechanisms used by non-native plants to become invaders are diverse in oceanic islands as well. The incorporation of knowledge obtained from studies like the one presented here will not only provide a better understanding of the processes involved in harmful plant invasions in the Galapagos but will also aid to prioritize and choose the best actions to control and eradicate noxious species in this unique biome."

403	Parasitic	n
	Source(s)	**Notes**
	CAB International. (2005). Forestry Compendium. CAB International, Wallingford, UK	"C. odorata is a large tree up to 40 m tall and 2 m in diameter…" [Meliaceae]

404	Unpalatable to grazing animals	y
	Source(s)	**Notes**
	Griscom, H. P., Ashton, P. M. S., & Berlyn, G. P. (2005). Seedling survival and growth of native tree species in pastures: Implications for dry tropical forest rehabilitation in central Panama. Forest Ecology and Management, 218(1-3), 306-318	[Unpalatable to grazing animals? Yes] "Cedrela odorata seedlings were rarely browsed upon by cattle and never excavated by rodents." … "We suggest differences between species were caused by cattle browse preference and seed size. Cattle negatively affected both species, though only E. cyclocarpum was heavily browsed upon. Cattle forage on fresh stems and leaves of E. cyclocarpum and avoid bitter-tasting C. odorata."

405	Toxic to animals	n
	Source(s)	**Notes**
	Wagstaff, D.J. (2008). International poisonous plants checklist: an evidence-based reference. CRC Press, Boca Raton, FL	No evidence
	CABI. (2025). CABI Compendium Invasive Species. https://www.cabidigitallibrary.org/product/qi. [Accessed 5 Aug 2025]	No evidence

406	Host for recognized pests and pathogens	n

Qsn #	Question	Answer
	Source(s)	**Notes**
	CABI. (2025). CABI Compendium Invasive Species. https://www.cabidigitallibrary.org/product/qi. [Accessed 5 Aug 2025]	"By far the most serious insect pest of C. odorata is the mahogany shootborer, Hypsipyla grandella (Cintron, 1990). Larvae of this moth eat the pith just behind shoot growing tips causing death of the apical meristem, slowing plant growth, reducing tree form by promoting multiple leaders or causing seedling mortality. The tree is also attacked by termites and a number of other generalist boring insects and fungal pathogens."
	Orwa C,et al. (2009). Agroforestree Database: a tree reference and selection guide version 4.0. http://www.worldagroforestry.org. [Accessed 5 Aug 2025]	"Damping-off recorded in Philippines nurseries is mainly due to Pythium ultimum and to a lesser extent to Rhizoctonia spp. and Fusarium spp. Fungi including Armillaria mellea may cause damage to the roots of young trees during the 1st few years, but this has not yet been recorded in Southeast Asia. In Haiti, an unidentified aphid-borne virus causes leaves of young seedlings to shrivel with mosaic-type symptoms. Die-back has been observed but is possibly an indication that climatic or soil conditions are not optimal and that the root system is suffering from insufficient aeration. Die-back of previously healthy 1-2-year-old stands is a common phenomenon in Central America and the Caribbean, characterized by poor crowns going out of leaf at frequent intervals, dead-looking bark and die-back from the top."

407	**Causes allergies or is otherwise toxic to humans**	
	Source(s)	**Notes**
	Quattrocchi, U. (2012). CRC World Dictionary of Medicinal and Poisonous Plants: Common Names, Scientific Names, Eponyms, Synonyms, and Etymology. CRC Press, Boca Raton, FL	[Possible irritant] "Wood dust may irritate the respiratory organs and skin. Bark bitter and tonic, astringent, antimalarial, febrifuge, antifeedant, molluscicidal, antiplasmodial, hypotensive, to treat malaria. Fruit anthelmintic.)"
	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**	**y**
	Source(s)	**Notes**
	CABI. (2025). CABI Compendium Invasive Species. https://www.cabidigitallibrary.org/product/qi. [Accessed 5 Aug 2025]	"Dense growths of the plant are likely to increase the frequency and intensity of fires, disturbing the forest further and allowing C. odorata and other invasive plants to become widely established."
	Csurhes, S. & Edwards, R. (1998). Potential environmental weeds in Australia: Candidate species for preventative control. Biodiversity Group, Environment Australia, Canberra, Australia	"In India, Nigeria and south-west China, it forms dense, tangled masses in plantations of teak and other trees. The mass of dry stems produced in the dry season is considered to pose a serious fire hazard in several countries (McFadyen, pers. comm.)."

409	**Is a shade tolerant plant at some stage of its life cycle**	**y**
	Source(s)	**Notes**
	CAB International. (2005). Forestry Compendium. CAB International, Wallingford, UK	"- Tolerates drought; fire; wind; shade; frost; termites"
	Burns, R.M. & Honkala, B.H. (1990). Silvics of North America. Volume 2: Hardwoods. Agriculture Handbook 654. U.S. Department of Agriculture, Forest Service, Washington, DC.	"Early development of the seedling is rapid as long as moisture and light are adequate (5,46,62). Shade-grown seedlings saturate photosynthetically at low intensities and are shade tolerant, but sun grown seedlings require high light intensities for best growth (27,28,29). Shade-grown seedlings are susceptible to sunscald and subsequent insect attack when moved to sun" … "Early growth is vigorous under partial shade, when the shootborer attack is not severe (8,51,62)."

Qsn #	Question	Answer
	Weber, E. (2003). Invasive Plant Species of the World. A Reference Guide to Environmental Weeds. CABI Publishing, Wallingford, UK	"It is intolerant of shade and does not coppice or sucker from roots." [Despite classification as "shade intolerant", this species has demonstrated an ability to establish in the understory of Maui forests. See Starr et al. 2006]

410	Tolerates a wide range of soil conditions (or limestone conditions if not a volcanic island)	y
	Source(s)	**Notes**
	Burns, R.M. & Honkala, B.H. (1990). Silvics of North America. Volume 2: Hardwoods. Agriculture Handbook 654. U.S. Department of Agriculture, Forest Service, Washington, DC.	"Cedro is always found naturally on well-drained soils, often but not exclusively on limestone"
	Lemmens, R.H.M.J. (2008), Cedrela odorata L. In: Louppe, D., Oteng-Amoako, A.A. & Brink, M. (Editors). Prota 7(1): Timbers/Bois d'œuvre 1. [CD-Rom]. PROTA, Wageningen, Netherlands	"It prefers well-drained sites on a variety of soils, but is usually more common on limestone-derived soil, especially in areas with a high annual rainfall (2000-3000 mm). It tolerates some drought once the tree is well established. It is best planted in fertile, well-drained soil, providing good aeration required by the root system."
	CAB International. (2005). Forestry Compendium. CAB International, Wallingford, UK	"Soil descriptors - Soil texture: light; medium; heavy - Soil drainage: free; seasonally waterlogged - Soil reaction: neutral - Special soil tolerances: shallow?"

411	Climbing or smothering growth habit	n
	Source(s)	**Notes**
	CAB International. (2005). Forestry Compendium. CAB International, Wallingford, UK	"C. odorata is a large tree up to 40 m tall and 2 m in diameter…"

412	Forms dense thickets	y
	Source(s)	**Notes**
	Csurhes, S. & Edwards, R. (1998). Potential environmental weeds in Australia: Candidate species for preventative control. Biodiversity Group, Environment Australia, Canberra, Australia	"Dense infestations of C. odorata may delay or block natural successional processes that would otherwise occur following disturbance to rainforest canopy cover (eg, following storm damage), a problem comparable to Lantana camara in eastern Australia. Dense growth of C odorata could increase the frequency and intensity of fire, causing further damage to rainforest remnants. Gallery forests and vine thickets are important natural remnants in northern Australia and C odorata may have the potential to damage such communities."
	Weber, E. (2003). Invasive Plant Species of the World. A Reference Guide to Environmental Weeds. CABI Publishing, Wallingford, UK	"High seedling densities are common. The tree shades out native plants with its large leaves, displacing them and building up species-poor monospecific stands. Native shrubs and trees are unable to establish in these stands"

501	Aquatic	n
	Source(s)	**Notes**
	Burns, R.M. & Honkala, B.H. (1990). Silvics of North America. Volume 2: Hardwoods. Agriculture Handbook 654. U.S. Department of Agriculture, Forest Service, Washington, DC.	"Cedro is a tree of the New World tropics, appearing in forests of moist and seasonally dry Subtropical or Tropical life zones…"

502	Grass	n

Qsn #	Question	Answer
	Source(s)	**Notes**
	CAB International. (2005). Forestry Compendium. CAB International, Wallingford, UK	Meliaceae

503	Nitrogen fixing woody plant	n
	Source(s)	**Notes**
	CAB International. (2005). Forestry Compendium. CAB International, Wallingford, UK	Meliaceae

504	Geophyte (herbaceous with underground storage organs -- bulbs, corms, or tubers)	n
	Source(s)	**Notes**
	CAB International. (2005). Forestry Compendium. CAB International, Wallingford, UK	"C. odorata is a large tree up to 40 m tall and 2 m in diameter which produces a light-weight timber."

601	Evidence of substantial reproductive failure in native habitat	n
	Source(s)	**Notes**
	Burns, R.M. & Honkala, B.H. (1990). Silvics of North America. Volume 2: Hardwoods. Agriculture Handbook 654. U.S. Department of Agriculture, Forest Service, Washington, DC.	"Cedro's reproductive cycle is synchronized with the growing season of the site; throughout its range it flowers at the beginning of the rainy season: May to August in Mexico, the ,,West Indies, and northern South America (4,30,48); September to October in Argentina (34)."

602	Produces viable seed	y
	Source(s)	**Notes**
	Burns, R.M. & Honkala, B.H. (1990). Silvics of North America. Volume 2: Hardwoods. Agriculture Handbook 654. U.S. Department of Agriculture, Forest Service, Washington, DC.	"Germination begins with the onset of the rainy season and is epigeous. Vigorous germination is the rule, with seed viability reportedly up to 90 percent (40). No seed dormancy period is known. Germination is rapid, usually completed within 2 to 4 weeks (37,38)."

603	Hybridizes naturally	
	Source(s)	**Notes**
	Burns, R.M. & Honkala, B.H. (1990). Silvics of North America. Volume 2: Hardwoods. Agriculture Handbook 654. U.S. Department of Agriculture, Forest Service, Washington, DC.	"Smith (51) suggested that the widely distributed species of cedro, C. odorata and C. fissilis, as well as the doubtful taxon C. angustifolia (which he recognized as a separate species), hybridized freely, and that hybrids could explain the great phenotypic variability in these taxa. Unfortunately, there is still no experimental evidence to support or reject the hybridization hypothesis. Recent cytological studies have shown that at least two separate basic diploid chromosome numbers (2n= 50 and 56) occur in C. odorata; this occurrence of different intraspecific chromosomal races seems widespread in the Meliaceae and may inhibit free hybridization (54,56)."
	Marquetti, J. R. (1990). Cedrela hybrids resistant to Hypsipyla grandella. Revista Forestal Baracoa 20(1): 97-101	[Hybridizes naturally? Possibly Yes] "A note on observations made for a 7-yr period in young plantations of a natural Cedrela hybrid (C. odorata X C. cubensis) at three sites in Cuba. Initially, the trees were heavily attacked by H. grandella, but after a few years the attack decreased, and the trees appeared to become tolerant or resistant."

604	Self-compatible or apomictic	n

Qsn #	Question	Answer
	Source(s)	**Notes**
	Hernández Sánchez, L. G. (2008). Genetic diversity and mating system analysis of Cedrela odorata L. (Meliaceae) populations under different human dominated landscapes and primary forests [Master's thesis, Centro Agronómico Tropical de Investigación y Enseñanza (CATIE)]	"C. odorata is an obligately outcrossed species, where no selfing occurrence was observed when adult trees were within a maximum distance of 500 meters."
	Cruden, R. W. (1988). Temporal dioecism: systematic breadth, associated traits, and temporal patterns. Botanical Gazette, 149(1), 1-15	"Table 1. Reproductive Traits of Temporally Dioecious Species" [Cedrela odorata - Compatibility = Unknown]
	Navarro, C., Montagnini, F., & Hernández, G. (2004). Genetic variability of Cedrela odorata Linnaeus: results of early performance of provenances and families from Mesoamerica grown in association with coffee. Forest Ecology and Management, 192(2), 217-227	[Possibly self-incompatible] "Estimate of the multilocus outcrossing rate for C. odorata was 0.969 and suggests this species may be self-incompatible (James et al., 1988)."

605	Requires specialist pollinators	n
	Source(s)	**Notes**
	Lemmens, R.H.M.J. (2008), Cedrela odorata L. In: Louppe, D., Oteng-Amoako, A.A. & Brink, M. (Editors). Prota 7(1): Timbers/Bois d'œuvre 1. [CD-Rom]. PROTA, Wageningen, Netherlands	"Flowers unisexual, male and female flowers very similar in appearance, regular, 5 merous, fragrant; pedicel up to 2 mm long; calyx cup shaped, c. 2 mm long; petals free, 7-9 mm long, creamy white, fused in lower half to columnar androgynophore; stamens free, 2-3 mm long; ovary superior, globose, glabrous, 5 celled, style 1-3 mm long, stigma disk-shaped; male flowers with rudimentary ovary, female flowers with non-dehiscing, smaller anthers." … "The flowers are pollinated by insects such as bees and moths."

606	Reproduction by vegetative fragmentation	n
	Source(s)	**Notes**
	Burns, R.M. & Honkala, B.H. (1990). Silvics of North America. Volume 2: Hardwoods. Agriculture Handbook 654. U.S. Department of Agriculture, Forest Service, Washington, DC.	"Cedro does not coppice readily nor produce root suckers; it is not fire resistant (5,40)."

607	Minimum generative time (years)	>3
	Source(s)	**Notes**
	Burns, R.M. & Honkala, B.H. (1990). Silvics of North America. Volume 2: Hardwoods. Agriculture Handbook 654. U.S. Department of Agriculture, Forest Service, Washington, DC.	"Trees begin to fruit at an age of 10 to 12 years."

701	Propagules likely to be dispersed unintentionally (plants growing in heavily trafficked areas)	n
	Source(s)	**Notes**
	Burns, R.M. & Honkala, B.H. (1990). Silvics of North America. Volume 2: Hardwoods. Agriculture Handbook 654. U.S. Department of Agriculture, Forest Service, Washington, DC.	[No evidence] "The fruit, a large woody capsule, is borne near branch tips. Fruits ripen, split, and shed seeds while still attached to the parent tree." … "Seeds are 20 to 25 mm (0.75 to 1.0 in) long, wing included, and are wind dispersed."

702	Propagules dispersed intentionally by people	y

Qsn #	Question	Answer
	Source(s)	**Notes**
	Staples, G.W. & Herbst, D.R. (2005). A Tropical Garden Flora - Plants Cultivated in the Hawaiian Islands and Other Tropical Places. Bishop Museum Press, Honolulu, HI	"It is native from both coasts of Mexico through lowland South America as far south as Argentina and throughout the West Indies and has been widely planted as a timber crop in other tropical regions."
	CAB International. (2005). Forestry Compendium. CAB International, Wallingford, UK	"It is widely planted throughout the tropics and its timber is well known for its use in cigar boxes and a broad range of other products, including musical instruments. It is also occasionally planted for shade and used as an ornamental tree on roadsides and in parks. C. odorata has great potential as a plantation species, due to its fast growing and timber producing characteristics. It is also used as an agroforestry species in cocoa and coffee plantations (Lemmens et al., 1995)."

703	**Propagules likely to disperse as a produce contaminant**	**y**
	Source(s)	**Notes**
	Randall, R.P. (2017). A Global Compendium of Weeds. 3rd Edition. Perth, Western Australia. R.P. Randall	"Forestry, Herbal, Ornamental Dispersed by: Humans, Wind, Escapee"
	Csurhes, S. & Edwards, R. (1998). Potential environmental weeds in Australia: Candidate species for preventative control. Biodiversity Group, Environment Australia, Canberra, Australia	"The seed of C. odorata is believed to have been originally imported into Queensland as a contaminant of pasture seed used on a grazing property in the 1960's and 1970's."

704	**Propagules adapted to wind dispersal**	**y**
	Source(s)	**Notes**
	Burns, R.M. & Honkala, B.H. (1990). Silvics of North America. Volume 2: Hardwoods. Agriculture Handbook 654. U.S. Department of Agriculture, Forest Service, Washington, DC.	"The fruit, a large woody capsule, is borne near branch tips. Fruits ripen, split, and shed seeds while still attached to the parent tree." … "Seeds are 20 to 25 mm (0.75 to 1.0 in) long, wing included, and are wind dispersed."

705	**Propagules water dispersed**	
	Source(s)	**Notes**
	CABI. (2025). CABI Compendium Invasive Species. https://www.cabidigitallibrary.org/product/qi. [Accessed 5 Aug 2025]	"Seeds are winged and thus have evolved for wind dispersal; however, some dispersal by water and wild animals cannot be completely discounted. "

706	**Propagules bird dispersed**	**n**
	Source(s)	**Notes**
	Burns, R.M. & Honkala, B.H. (1990). Silvics of North America. Volume 2: Hardwoods. Agriculture Handbook 654. U.S. Department of Agriculture, Forest Service, Washington, DC.	"Seeds are 20 to 25 mm (0.75 to 1.0 in) long, wing included, and are wind dispersed."

707	**Propagules dispersed by other animals (externally)**	**n**
	Source(s)	**Notes**
	Burns, R.M. & Honkala, B.H. (1990). Silvics of North America. Volume 2: Hardwoods. Agriculture Handbook 654. U.S. Department of Agriculture, Forest Service, Washington, DC.	"Seeds are 20 to 25 mm (0.75 to 1.0 in) long, wing included, and are wind dispersed." [Unlikely, as seeds lack means of external attachment]

Qsn #	Question	Answer
708	**Propagules survive passage through the gut**	n
	Source(s)	**Notes**
	Burns, R.M. & Honkala, B.H. (1990). Silvics of North America. Volume 2: Hardwoods. Agriculture Handbook 654. U.S. Department of Agriculture, Forest Service, Washington, DC.	"Seeds are 20 to 25 mm (0.75 to 1.0 in) long, wing included, and are wind dispersed." [Unlikely to be consumed or internally dispersed by animals]
	WRA Specialist. (2014). Personal Communication	[Propagules survive passage through the gut? Unlikely to be consumed or internally dispersed by animals]

801	**Prolific seed production (>1000/m2)**	
	Source(s)	**Notes**
	Burns, R.M. & Honkala, B.H. (1990). Silvics of North America. Volume 2: Hardwoods. Agriculture Handbook 654. U.S. Department of Agriculture, Forest Service, Washington, DC.	[Possibly Yes] "Heavy seed crops are produced annually in some areas and biennially or irregularly in others (41,59)."
	Lemmens, R.H.M.J. (2008), Cedrela odorata L. In: Louppe, D., Oteng-Amoako, A.A. & Brink, M. (Editors). Prota 7(1): Timbers/Bois d'œuvre 1. [CD-Rom]. PROTA, Wageningen, Netherlands	[Possibly Yes] "Seeds are often produced in great number, and can be collected from the soil or from a canvas mat placed below a fruiting tree, but seed collected from ripe fruits still on the tree shows better germination results."
	Csurhes, S. & Edwards, R. (1998). Potential environmental weeds in Australia: Candidate species for preventative control. Biodiversity Group, Environment Australia, Canberra, Australia	[Possibly] "Rapid colonisation is made possible by the copious production of wind-dispersed seeds that can be blown over several kilometres."

802	**Evidence that a persistent propagule bank is formed (>1 yr)**	n
	Source(s)	**Notes**
	Burns, R.M. & Honkala, B.H. (1990). Silvics of North America. Volume 2: Hardwoods. Agriculture Handbook 654. U.S. Department of Agriculture, Forest Service, Washington, DC.	"Seeds are shed during the dry season. They lose viability quickly if not stored very dry at reduced temperatures (12,37,38). Germination begins with the onset of the rainy season and is epigeous. Vigorous germination is the rule, with seed viability reportedly up to 90 percent (40). No seed dormancy period is known. Germination is rapid, usually completed within 2 to 4 weeks (37,38)."
	Vozzo, J.A. (2002). Tropical Tree Seed Manual. USDA Forest Service, Washington, D.C.	"Vega and others (1981) note that the seeds of this tree can be stored at ambient temperatures for a period of 10 months without significantly losing viability. However, other studies (Centro Aronómico Tropical de Investigación y Enseñanza 1997b) show that the viability of the seeds stored under natural conditions diminishes quickly after 1 month. Therefore, storing seeds in polyethylene bags at a temperature of 5 °C and a moisture content of 7 percent is recommended. Stored this way, seeds maintain a viability of 50 to 60 percent for 2 years."

Qsn #	Question	Answer
803	**Well controlled by herbicides**	**y**
	Source(s)	**Notes**
	Global Invasive Species Database. (2025). Species profile Cedrela odorata. https://www.iucngisd.org/gisd/species.php?sc=343. [Accessed 5 Aug 2025]	"In Galapagos hack and squirt application of 50% Tordon 22K has been found successful (Gardener, 2002)."
	Rentería, J.L., Atkinson, R., Guerrero, A.M. & Mader, J. (2006). Manual de Identificación y Manejo de Malezas. Segunda edición. Fundación Charles Darwin, Quito - Ecuador	"Para árboles mayores a 40 cm de diámetro, aplique Combo al 20% (20 partes del herbicida disueltos en 80 partes de agua) o Tordon 22K al 10% (10 partes del herbicida disueltas en 90 partes de agua). El anillo de 30 a 50 cm de ancho a 1 m de la base." [Tranlsation: For larger trees to 40 cm in diameter, apply Combo 20% (20 parts herbicide dissolved in 80 parts water) or Tordon 22K 10% (10 herbicide parts dissolved in 90 parts water). The ring of 30 to 50 cm wide at 1 m from the base.]

804	**Tolerates, or benefits from, mutilation, cultivation, or fire**	**n**
	Source(s)	**Notes**
	Lemmens, R.H.M.J. (2008), Cedrela odorata L. In: Louppe, D., Oteng-Amoako, A.A. & Brink, M. (Editors). Prota 7(1): Timbers/Bois d'œuvre 1. [CD-Rom]. PROTA, Wageningen, Netherlands	"Cedrela odorata cannot be managed by coppicing."
	Burns, R.M. & Honkala, B.H. (1990). Silvics of North America. Volume 2: Hardwoods. Agriculture Handbook 654. U.S. Department of Agriculture, Forest Service, Washington, DC.	"Cedro does not coppice readily nor produce root suckers; it is not fire resistant (5,40). It is capable of pollard regrowth (partial terminal regrowth after moderate wind damage or partial dieback) if the tree is well established."

805	**Effective natural enemies present locally (e.g. introduced biocontrol agents)**	
	Source(s)	**Notes**
	Starr, F., Starr, K. & Loope, L.L. (2006). New plant records from the Hawaiian Archipelago. Bishop Museum Occasional Papers 87: 31-43	"In the state of Hawai'i, over 26,000 C. odorata trees were planted from 1910–1960 (Skolmen, 1960). About 9,000 of these were planted on the island of Maui in the vicinities of Hana, Ko'olau, and Makawao (Skolmen, 1960). Cedrela odorata is now naturalized in these areas and is spreading from forestry plantations into nearby lowland disturbed wet forest." [Unknown, but no evidence that natural enemies are inhibiting spread]

Summary of Risk Traits:

Cedrela odorata (West Indian cedar) is a tall, fast-growing tree native from the West Indies south to the Amazon Basin. It can reach heights of 100 feet (33 m) and trunk diameters of 3–6 feet (1–2 m) above large basal buttresses. The tree has an unpleasant odor, yellowish flowers with the ovary raised on a cylindrical disk, and leaves with 10–20 pairs of narrow-oblong leaflets. It is similar in appearance to Toona species in Hawai'i but can be distinguished by its winged seeds (winged at the lower part only). Widely planted in tropical forestry, its wood is aromatic, lightweight, and strong. In Hawai'i, over 26,000 trees were planted between 1910 and 1960, with about 9,000 planted on Maui alone, in areas like Hāna, Ko'olau, and Makawao.

Cedrela odorata is now naturalized in Hawai'i and spreading from plantations into disturbed lowland wet forests, particularly on Maui. It forms dense stands that crowd out native vegetation, threatening biodiversity and altering forest structure. While already documented as naturalized on Maui, it was also planted in large numbers on Kaua'i, O'ahu, Moloka'i, and Hawai'i Island, and its spread on those islands should be investigated. Due to its invasive potential and ecological impact, C. odorata is not recommended for future planting, and non-invasive alternatives should be used instead.

High Risk / Undesirable Traits
• Thrives in tropical climates
• Elevation range exceeds 1000 m
• Naturalized in East Maui, Hawaiian Islands, the Galapagos, and in Africa and southeast Asia
• An environmental weed
• Unpalatable to cattle
• Tolerates many soil types
• May from dense monocultures that exclude other vegetation
• Produces numerous wind-dispersed seeds

Low Risk Traits
• Unarmed (no spines, thorns or burrs)
• Useful timber and shade tree
• Does not spread vegetatively
• Long time to reproductive maturity (10-15 years)
• Does not form a persistent seed bank
• Does not coppice or tolerate heavy pruning
• Herbicides may provide effective control