Taxon: Cassia brewsteri (F.Muell.) F.Muell. ex Benth. **Family:** Fabaceae

Common Name(s): bean tree
Brewster's cassia
cassia pea
Leichhardt bean

Synonym(s): Cassia brewsteri var. sylvestris F.M.Bailey
Cathartocarpus brewsteri F.Muell.

Assessor: Chuck Chimera **Status:** Approved **End Date:** 30 Oct 2026

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

Keywords: Australian native; Pasture weed, Unpalatable; Ornamental tree; Root suckering

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	?
301	Naturalized beyond native range	y = 1*multiplier (see Appendix 2), n = question 205	n
302	Garden/amenity/disturbance weed	y = 1*multiplier (see Appendix 2), n = 0	n
303	Agricultural/forestry/horticultural weed	y = 2*multiplier (see Appendix 2), n = 0	y
304	Environmental weed	y = 2*multiplier (see Appendix 2), n = 0	n
305	Congeneric weed	y = 1*multiplier (see Appendix 2), n = 0	y
401	Produces spines, thorns or burrs	y = 1, n = 0	n
402	Allelopathic		
403	Parasitic	y = 1, n = 0	n
404	Unpalatable to grazing animals	y = 1, n = -1	y
405	Toxic to animals	y = 1, n = 0	n
406	Host for recognized pests and pathogens		
407	Causes allergies or is otherwise toxic to humans	y = 1, n = 0	n
408	Creates a fire hazard in natural ecosystems		
409	Is a shade tolerant plant at some stage of its life cycle		

Qsn #	Question	Answer Option	Answer
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		
504	Geophyte (herbaceous with underground storage organs -- bulbs, corms, or tubers)	y = 1, n = 0	n
601	Evidence of substantial reproductive failure in native habitat	y = 1, n = 0	n
602	Produces viable seed	y = 1, n = -1	y
603	Hybridizes naturally		
604	Self-compatible or apomictic		
605	Requires specialist pollinators	y = -1, n = 0	n
606	Reproduction by vegetative fragmentation	y = 1, n = -1	y
607	Minimum generative time (years)		
701	Propagules likely to be dispersed unintentionally (plants growing in heavily trafficked areas)	y = 1, n = -1	n
702	Propagules dispersed intentionally by people	y = 1, n = -1	y
703	Propagules likely to disperse as a produce contaminant	y = 1, n = -1	n
704	Propagules adapted to wind dispersal	y = 1, n = -1	n
705	Propagules water dispersed	y = 1, n = -1	n
706	Propagules bird dispersed	y = 1, n = -1	n
707	Propagules dispersed by other animals (externally)	y = 1, n = -1	n
708	Propagules survive passage through the gut		
801	Prolific seed production (>1000/m2)		
802	Evidence that a persistent propagule bank is formed (>1 yr)		
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
	Australian Biological Resources Study. (1998). Flora of Australia Volume 12, Mimosaceae (excl. Acacia), Caesalpiniaceae. CSIRO, Melbourne	[No evidence of domestication. Wild populations exist] "Occurs in eastern and southern Qld and northern N.S.W., in a variety of habitats, and showing considerable morphological variability. There are three varieties."

102	Has the species become naturalized where grown?	
	Source(s)	Notes
	WRA Specialist. (2026). Personal Communication	NA

103	Does the species have weedy races?	
	Source(s)	Notes
	WRA Specialist. (2026). 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
	POWO (2026). Plants of the World Online. Facilitated by the Royal Botanic Gardens, Kew. Published on the Internet; https://powo.science.kew.org/. [Accessed 26 Oct 2026]	"The native range of this species is Queensland. It is a tree and grows primarily in the seasonally dry tropical biome. "

202	Quality of climate match data	High
	Source(s)	Notes
	POWO (2026). Plants of the World Online. Facilitated by the Royal Botanic Gardens, Kew. Published on the Internet; https://powo.science.kew.org/. [Accessed 26 Oct 2026]	"The native range of this species is Queensland. It is a tree and grows primarily in the seasonally dry tropical biome. "

203	Broad climate suitability (environmental versatility)	y
	Source(s)	Notes
	Doran, J. C. & Turnbull, J. W. (1997). Australian Trees and Shrubs: species for land rehabilitation and farm planting in the tropics. ACIAR Monograph No. 24. Canberra, Australia	"It is found in warm humid areas of coastal lowlands. Inland areas are warm sub-humid, extending to the fringes of the warm semiarid climatic zone. Rainfall range 1100–1350 mm/year with a summer maximum."

Qsn #	Question	Answer
	Hodel, D. R., Musial, K., Henrich, J. E., Greby, K. J., & Phillips, T. (2015). Trees in the landscape, Part 12: Cassia brewsteri. PalmArbor, 2015(3), 1-18	"The climate ranges from warm-humid tropical or tropical savanna with a distinct, seasonal, summer-maximum rainfall pattern in the north to a humid subtropical with rainfall less seasonal and more evenly distributed throughout the year in the south. Rainfall varies, and generally tends to be from 30 to 65 inches annually in the south and 30 to 45 inches annually in the north (AGBM 2015). Mean minimum and mean maximum temperatures range from 60 to 90 F in the north to 50 to 80 F in the south. Frosts are rare but occur in more inland and higher elevations of the range." ... "Although experience with Brewster's cassia is unusually limited, it appears surprisingly tolerant and adaptable. It is unlisted in The Sunset Western Garden Book (Brenzel 1999) but performs well in interior valleys of southern California and would likely also do well in coastal plains and valleys and even into the low desert, meaning it is likely adapted to Sunset Zones 18 through 23 (coastal and interior) and 13 (low desert). It is likely intolerant of seacoast exposure but would likely perform adequately away from the immediate coast in Zone 24, especially on the lee side of a building or other structure that would block prevailing ocean breezes. Cold intolerance likely precludes its use in colder areas, such as the high desert and central and northern California; however, Brewster's cassia has survived temperatures in the low to middle 20s F on several occasions, most recently in 2007, 1990, and 1987. Its U. S. D. A. Cold Hardiness ranking is probably zones 9a to 13b. Elliot and Jones (1982) noted that it is cold sensitive but has been grown in protected situation in Melbourne, Australia, which has a climate similar to that of San Francisco."

204	Native or naturalized in regions with tropical or subtropical climates	y
	Source(s)	**Notes**
	Australian Biological Resources Study. (1998). Flora of Australia Volume 12, Mimosaceae (excl. Acacia), Caesalpiniaceae. CSIRO, Melbourne	"Occurs in eastern and southern Qld and northern N.S.W., in a variety of habitats, and showing considerable morphological variability. There are three varieties."
	Gallaher, T.J., Brock, K., Kennedy, B.H., Imada, C.T., Imada, K., & Walvoord, N. (2026). Plants of Hawai'i. http://www.plantsofhawaii.org. [Accessed 26 Oct 2026]	"Only found in cultivation"
	POWO (2026). Plants of the World Online. Facilitated by the Royal Botanic Gardens, Kew. Published on the Internet; https://powo.science.kew.org/. [Accessed 26 Oct 2026]	"The native range of this species is Queensland. It is a tree and grows primarily in the seasonally dry tropical biome. "

205	Does the species have a history of repeated introductions outside its natural range?	?
	Source(s)	**Notes**
	Johnson, M. B. (1993). Woody legumes in southwest desert landscapes. Desert Plants, 10(4), 148–167	"Cassia brewsteri, a shrubby tree from Australia, produces masses of showy yellow and red to rusty orange flowers in drooping racemes. It grows successfully in the Los Angeles area and is being tested for suitability in Arizona."
	Lock, J. M. (1988). Cassia Sens.Lat. (Leguminosae: Caesalpinioideae) in Africa. Kew Bulletin, 43(2), 333-342	"The following species have been cultivated in Africa, in most cases in only one or two countries. Most are of Australian origin. I do not consider it appropriate to make new combinations for these here. Cassia artemisioides DC. Cassia barclayana Sweet Cassia brewsteri F. Muell. Cassia eremophila Vogel Cassia renigera Benth. Cassia retusa Voge"

Qsn #	Question	Answer
	Hodel, D. R., Musial, K., Henrich, J. E., Greby, K. J., & Phillips, T. (2015). Trees in the landscape, Part 12: Cassia brewsteri. PalmArbor, 2015(3), 1-18	[{Rare in California] "Unfortunately, Brewster's cassia is rarely in the trade in California. Australian Native Plants Nursery in Ventura sometimes offers it for sale. Seeds are rarely available here on the few existing trees because of marauding squirrels; thus, people interested in growing this handsome ornamental would likely have to import seeds from Australia if they were unable to procure plants locally. The best selections of the few existing trees here could be propagated by air layering or grafting and distributed to interested parties."

301	Naturalized beyond native range	n
	Source(s)	**Notes**
	POWO (2026). Plants of the World Online. Facilitated by the Royal Botanic Gardens, Kew. Published on the Internet; https://powo.science.kew.org/. [Accessed 27 Oct 2026]	"Introduced into: Kenya " [No evidence of naturalization]
	Gallaher, T.J., Brock, K., Kennedy, B.H., Imada, C.T., Imada, K., & Walvoord, N. (2026). Plants of Hawai'i. http://www.plantsofhawaii.org. [Accessed 27 Oct 2026]	"Only found in cultivation" [No evidence to date]
	Randall, R.P. (2017). A Global Compendium of Weeds. 3rd Edition. Perth, Western Australia. R.P. Randall	No evidence

302	Garden/amenity/disturbance weed	n
	Source(s)	**Notes**
	Ecocrop. (2026). Cassia brewsteri. https://ecocrop.apps.fao.org/ecocrop/srv/en/cropView?id=4283. [Accessed 27 Oct 2026]	"Its capacity to produce root suckers have made it a weed in some pastoral areas."
	Anderson, E. (2016). Plants of Central Queensland: Identification and Uses of Native and Introduced Species. CSIRO Publishing, Clayton South, Australia	"Leichhardt bean can become a problem woody weed when vegetation communities containing it are pulled out. It tends to produce root suckers that are hard to control. It is not eaten by animals."
	WRA Specialist. (2026). Personal Communication	Regarded as a pasture weed due to suckering and avoidance by livestock

303	Agricultural/forestry/horticultural weed	y
	Source(s)	**Notes**
	Anderson, E. (2016). Plants of Central Queensland: Identification and Uses of Native and Introduced Species. CSIRO Publishing, Clayton South, Australia	"Leichhardt bean can become a problem woody weed when vegetation communities containing it are pulled out. It tends to produce root suckers that are hard to control. It is not eaten by animals."
	Cunningham, D. C., Anderson, E. R., & Walsh, K. B. (2002). Ecology and biogeography of Cassia brewsteri: assessment of potential sites for cultivation. Australian Journal of Experimental Agriculture, 42(8), 1071-1080	[Pasture weed in native range] "Further, while digestible in vitro, the foliage and fruit are unpalatable to cattle. There is, therefore, no potential for development of the plant as a fodder crop in Australia. Indeed, as the tree produces root suckers after clearing, graziers consider it a weed in parts of central Queensland (Kleinschmidt and Johnson 1977; Scanlan and Fossett 1981). Agricultural studies of C. brewsteri have focussed on means of killing the plant (e.g. Back 1974a, 1974b). The weediness of the tree is due in part to selective grazing; livestock avoid it but consume some of its competitors. Management practices such as physical clearing that disturb the plant promote multi-stemmed root suckers, exacerbating the problem."

304	Environmental weed	n

Qsn #	Question	Answer
	Source(s)	**Notes**
	Cunningham, D. C., Anderson, E. R., & Walsh, K. B. (2002). Ecology and biogeography of Cassia brewsteri: assessment of potential sites for cultivation. Australian Journal of Experimental Agriculture, 42(8), 1071-1080	[A pasture weed due to selective grazing of other plants] "Further, while digestible in vitro, the foliage and fruit are unpalatable to cattle. There is, therefore, no potential for development of the plant as a fodder crop in Australia. Indeed, as the tree produces root suckers after clearing, graziers consider it a weed in parts of central Queensland (Kleinschmidt and Johnson 1977; Scanlan and Fossett 1981). Agricultural studies of C. brewsteri have focussed on means of killing the plant (e.g. Back 1974a, 1974b). The weediness of the tree is due in part to selective grazing; livestock avoid it but consume some of its competitors."
	Randall, R.P. (2017). A Global Compendium of Weeds. 3rd Edition. Perth, Western Australia. R.P. Randall	[No evidence] "Cassia brewsterii F. Müell. Fabaceae - Caesalpiniaceae Total N° of Refs: 1 Global Risk Score: 0.24 Rating: Low Major Pathway/s: Ornamental Dispersed by: Humans References: Australia-A-87."
	WRA Specialist. (2026). Personal Communication	Cassia brewsteri has a historical record as a general or agricultural weed and can exhibit suckering behavior. However, it lacks the characteristics of a serious environmental weed: it is not noted as a transformer of natural habitats, and field evidence from both its native Australia and introduced range (California) suggests it does not readily spread or dominate beyond cultivation.

305	Congeneric weed	y
	Source(s)	**Notes**
	Brisbane City Council. (2026). Weed identification Tool - Golden shower tree - Cassia fistula. https://weeds.brisbane.qld.gov.au/weeds/golden-shower-tree. [Accessed 27 Oct 2026]	"In south-eastern Queensland, this species is occasionally a weed of riparian vegetation (i.e. along the Brisbane River in St. Lucia and along the Bremer River in Ipswich) and disturbed forests (i.e. on Coochiemudlo Island). It is also listed as a weed in Maroochy Shire on the Sunshine Coast., Golden shower (Cassia fistula) is also regarded as an environmental weed in the Northern Territory, where it is actively managed by community groups. It has also spread from cultivation on Koolan Island and in the King Leopold Range in Western Australia."
	Queensland Government. (2026). Weeds of Australia - Cassia fistula. https://keyserver.lucidcentral.org/weeds/data/media/Html/cassia_fistula.htm. [Accessed 27 Oct 2026]	[Cassia fistula is regarded as a weed in Australia, although considered Low Risk in the Hawaiian Islands] "This small tree is widely cultivated in the sub-tropical and tropical regions of Australia. Golden shower (Cassia fistula) has escaped cultivation and is regarded as an environmental weed in the Northern Territory and Queensland. It is actively managed by community groups in the Northern Territory."

Qsn #	Question	Answer
401	Produces spines, thorns or burrs	n
	Source(s)	**Notes**
	Australian Biological Resources Study. (1998). Flora of Australia Volume 12, Mimosaceae (excl. Acacia), Caesalpiniaceae. CSIRO, Melbourne	[No evidence] "Tree to 30 m tall, glabrous or variously pubescent. Leaves 10–25 cm long including petiole 2–4 cm long; stipules caducous; leaflets in 2–8 pairs, oblong to obovate, 2–11 cm long, 1.5–3 cm wide, discolorous. Inflorescence of 10–50 flowers, 7–20 cm long, pendulous; pedicels 20–30 mm long; bracts and bracteoles persistent until anthesis. Petals 5–15 mm long. Fertile stamens 7 with 3 adaxial staminodes; filaments unequal; shortest adaxial ones 3–4 mm long; longest abaxial ones c. 15 mm long, sigmoidally curved, with a swelling above the mid-point; anthers subequal, 2–3 mm long. Pod cylindric or somewhat compressed, transversely ribbed between the seeds, 15–45 cm long, 1–3 cm diam. Seeds transverse, 1-seriate, c. 8 mm long, each enveloped in a dry, suberous disc, smooth, dark."

402	Allelopathic	
	Source(s)	**Notes**
	WRA Specialist. (2026). Personal Communication	Unknown. Allelopathic activity has been demonstrated experimentally in other Cassia species.

403	Parasitic	n
	Source(s)	**Notes**
	Australian Biological Resources Study. (1998). Flora of Australia Volume 12, Mimosaceae (excl. Acacia), Caesalpiniaceae. CSIRO, Melbourne	"Tree to 30 m tall, glabrous or variously pubescent." [No evidence]

404	Unpalatable to grazing animals	y
	Source(s)	**Notes**
	Cunningham, D. C., Anderson, E. R., & Walsh, K. B. (2002). Ecology and biogeography of Cassia brewsteri: assessment of potential sites for cultivation. Australian Journal of Experimental Agriculture, 42(8), 1071-1080	"Further, while digestible in vitro, the foliage and fruit are unpalatable to cattle. There is, therefore, no potential for development of the plant as a fodder crop in Australia. Indeed, as the tree produces root suckers after clearing, graziers consider it a weed in parts of central Queensland (Kleinschmidt and Johnson 1977; Scanlan and Fossett 1981). Agricultural studies of C. brewsteri have focussed on means of killing the plant (e.g. Back 1974a, 1974b). The weediness of the tree is due in part to selective grazing; livestock avoid it but consume some of its competitors."
	Anderson, E. (2016). Plants of Central Queensland: Identification and Uses of Native and Introduced Species. CSIRO Publishing, Clayton South, Australia	"Leichhardt bean can become a problem woody weed when vegetation communities containing it are pulled out. It tends to produce root suckers that are hard to control. It is not eaten by animals."
	Hodel, D. R., Musial, K., Henrich, J. E., Greby, K. J., & Phillips, T. (2015). Trees in the landscape, Part 12: Cassia brewsteri. PalmArbor, 2015(3), 1–18	"While Anderson (1993) notes that animals do not eat Brewster's cassia, we have observed that the introduced, nonnative eastern fox squirrel severely ravages young, immature fruits, tearing them apart to get at the seeds, which they rapaciously devour. Indeed, it is rare to find any intact pods with seeds of Brewster's cassia on the tree by the end of the fruiting period; however, scores of eaten-out pods litter the ground under the tree"

405	Toxic to animals	n
	Source(s)	**Notes**

Qsn #	Question	Answer
	Cunningham, D. C., Anderson, E. R., & Walsh, K. B. (2002). Ecology and biogeography of Cassia brewsteri: assessment of potential sites for cultivation. Australian Journal of Experimental Agriculture, 42(8), 1071-1080	"Vercoe (1987, 1989) investigated the fodder value of C. brewsteri and 38 other Australian tree species. Dry matter digestibility (DMD) was estimated in vitro from chemical composition (e.g. crude protein level of 11.9%) by comparison with standard samples of species with known in vivo digestibility. The predicted in vivo DMD of 61.6% of C. brewsteri foliage was suggested to be adequate to provide subsistence forage. However, neither the foliage nor the twigs by themselves are adequate for the maintenance of sheep or cattle. The foliage is deficient in phosphorus and potassium and the twigs are deficient in crude protein, phosphorus, potassium and sodium. Further, while digestible in vitro, the foliage and fruit are unpalatable to cattle. There is, therefore, no potential for development of the plant as a fodder crop in Australia."
	McKenzie, R. (2020). Australia's Poisonous Plants, Fungi and Cyanobacteria: A Guide to Species of Medical and Veterinary Importance. CSIRO Publishing, Clayton South, VIC	No evidence

406	Host for recognized pests and pathogens	
	Source(s)	**Notes**
	Hodel, D. R., Musial, K., Henrich, J. E., Greby, K. J., & Phillips, T. (2015). Trees in the landscape, Part 12: Cassia brewsteri. PalmArbor, 2015(3), 1-18	"Serious pests and diseases of Brewster's cassia are unknown in California. The Polyphagous Shot-Hole Borer and the Fusarium disease complex it vectors might be problematic; yet the few specimens of Brewster's cassia we have observed are in prime areas for this borer and disease and more or less surrounded by infested and infected trees but show only an occasional borer entry/ exit hole and no disease symptoms"
	Cunningham, D. C., & Walsh, K. B. (2002). Establishment of the peanut bruchid (Caryedon serratus) in Australia and two new host species, Cassia brewsteri and C. tomentella. Australian Journal of Experimental Agriculture, 42(1), 57-63	"The distribution of Caryedon serratus , the peanut (groundnut) bruchid, on 2 Australian native plants, Cassia brewsteri and C. tomentella , was documented over 2 years. Caryedon serratus was observed across the central and northern parts of the range of C. brewsteri (latitudes 19.258-24.140°S) and at least part of the range of C. tomentella (as far as 24.427°S). Seed loss to C. serratus in these species assessed across all collection sites was 40 ± 8.0% (mean ± s.e.). Where the bruchid was detected at a given site, 72 ± 8.6% of pods on 71 ± 8.5% of trees were affected. Additional distribution points and other potential host species from previous C. serratus collections in the Australian National Insect Collection (ANIC) are reported. The combined data were used to predict a potential range for the bruchid across the dry tropics of Australia. No reports of migration to cultivated or stored peanut (Arachis hypogaea) in Australia were located. Further investigation of the potential impact of this bruchid on the Australian peanut industry is recommended. A potentially beneficial aspect of C. serratus establishment may be the biological control of Acacia nilotica (prickly acacia) in Australia."
	WRA Specialist. (2026). Personal Communication	While Cassia brewsteri is not known as a major pest reservoir, it serves as a confirmed host for at least two notable beetles and is vulnerable to common fungal pathogens, particularly in cultivation.

407	Causes allergies or is otherwise toxic to humans	n
	Source(s)	**Notes**
	Hodel, D. R., Musial, K., Henrich, J. E., Greby, K. J., & Phillips, T. (2015). Trees in the landscape, Part 12: Cassia brewsteri. PalmArbor, 2015(3), 1-18	"The tree has no known health hazards."
	McKenzie, R. (2020). Australia's Poisonous Plants, Fungi and Cyanobacteria: A Guide to Species of Medical and Veterinary Importance. CSIRO Publishing, Clayton South, VIC	No evidence

Qsn #	Question	Answer
	Quattrocchi, U. (2012). CRC World Dictionary of Medicinal and Poisonous Plants: Common Names, Scientific Names, Eponyms, Synonyms, and Etymology. CRC Press, Boca Raton, FL	No evidence

408	Creates a fire hazard in natural ecosystems	
	Source(s)	**Notes**
	Doran, J. C. & Turnbull, J. W. (1997). Australian Trees and Shrubs: species for land rehabilitation and farm planting in the tropics. ACIAR Monograph No. 24. Canberra, Australia	"Distribution It occurs in eastern Queensland. Climate It is found in warm humid areas of coastal lowlands. Inland areas are warm sub-humid, extending to the fringes of the warm semiarid climatic zone. Rainfall range 1100–1350 mm/year with a summer maximum." [No evidence that this species contributes to fire or increases fuel loads]

409	Is a shade tolerant plant at some stage of its life cycle	
	Source(s)	**Notes**
	Australian Native Plants. (2026). Cassia brewsteri. https://www.australianplants.com/plants.aspx?id=1074. [Accessed 29 Oct 2026]	"Prefers well drained soils in full sun or partial shade."
	Coastal Dry Tropics Landcare Inc. (2026). Cassia brewsteri. https://cdtli.org.au/plant_profile/cassia-brewsteri/. [Accessed 29 Oct 2026]	"Prefers well-drained soil in full sun/part shade, but occurs in areas with permeable topsoil but alkaline, medium-heavy clay sub- soil. Tolerant of drought and salt spray once established. Good specimen and shade tree."
	Hodel, D. R., Musial, K., Henrich, J. E., Greby, K. J., & Phillips, T. (2015). Trees in the landscape, Part 12: Cassia brewsteri. PalmArbor, 2015(3), 1–18	"Start seedlings in light shade but acclimate them to full sun after about a year."
	WRA Specialist. (2026). Personal Communication	Cassia brewsteri requires light shade as a seedling and can tolerate partial shade as a mature tree, but it is fundamentally a sun-loving species that thrives in open, well-lit positions.

Qsn #	Question	Answer
410	**Tolerates a wide range of soil conditions (or limestone conditions if not a volcanic island)**	**y**
	Source(s)	**Notes**
	Cunningham, D. C., Anderson, E. R., & Walsh, K. B. (2002). Ecology and biogeography of Cassia brewsteri: assessment of potential sites for cultivation. Australian Journal of Experimental Agriculture, 42(8), 1071-1080	"Cassia brewsteri occurred on uniform, gradational and duplex soils, and on a range of soil textures from clayey sand to heavy clays (Table 2). Soil pH varied within each primary profile form, ranging from 4.2 to 9.0. This characterisation is consistent with previous reports. Turnbull et al. (1986), later updated in Doran et al. (1997), reported that inland occurrences of C. brewsteri were commonly on alluvial plains and undulating lowlands with a permeable loam at the surface and an impermeable, often alkaline, medium to heavy clay subsoil. Other occurrences were reported to be on undulating to hilly country and tablelands where soils range from shallow skeletal sands and stony clays to deep loamy and sandy red earths. The best development of the tree was reported on deep, fertile red clay loams or deep alluvial soils near watercourses. Diemer and Simms (1996) estimated a maximum soil pH for C. brewsteri of 6.5 and an optimal pH of 6.0. However, their values were very low compared to the majority of natural occurences of the plant, which are on neutral or alkaline soils (Table 2)."
	Hodel, D. R., Musial, K., Henrich, J. E., Greby, K. J., & Phillips, T. (2015). Trees in the landscape, Part 12: Cassia brewsteri. PalmArbor, 2015(3), 1-18	"Soils are variable and range from slightly acid to neutral, well structured and well drained sandy loams to alkaline, stony, heavy clays (Anderson 1993; Williams 1979, 1999). Sometimes the permeable sandy loams are over a layer of impermeable heavy clay."
	Doran, J. C. & Turnbull, J. W. (1997). Australian Trees and Shrubs: species for land rehabilitation and farm planting in the tropics. ACIAR Monograph No. 24. Canberra, Australia	"Soils Best development is on deep, fertile clay loams derived from volcanic substrates or on alluvials, but it grows on a wide range of soils."

411	**Climbing or smothering growth habit**	**n**
	Source(s)	**Notes**
	Australian Biological Resources Study. (1998). Flora of Australia Volume 12, Mimosaceae (excl. Acacia), Caesalpiniaceae. CSIRO, Melbourne	"Tree to 30 m tall, glabrous or variously pubescent."

412	**Forms dense thickets**	**n**
	Source(s)	**Notes**
	Anderson, E. (2016). Plants of Central Queensland: Identification and Uses of Native and Introduced Species. CSIRO Publishing, Clayton South, Australia	"Leichhardt bean can become a problem woody weed when vegetation communities containing it are pulled out. It tends to produce root suckers that are hard to control." [Can become a problem in pastures, but no evidence that this species forms dense stands]

501	**Aquatic**	**n**
	Source(s)	**Notes**
	Cunningham, D. C., Anderson, E. R., & Walsh, K. B. (2002). Ecology and biogeography of Cassia brewsteri: assessment of potential sites for cultivation. Australian Journal of Experimental Agriculture, 42(8), 1071-1080	[Terrestrial] "Cassia brewsteri occurred on flat alluvial plains, flat non-alluvial plains, plains with low relief, undulating plains with low rises and on low hills (Table 1). It was not recorded on hilly to mountainous terrain or on tablelands despite these topographies being within the geographic range of the plant. Slope ranged from flat to 13° (n = 113). Aspect ranged from 20 to 340° (n = 17 non-flat sites)."

502	**Grass**	**n**

Qsn #	Question	Answer
	Source(s)	**Notes**
	POWO (2026). Plants of the World Online. Facilitated by the Royal Botanic Gardens, Kew. Published on the Internet; https://powo.science.kew.org/. [Accessed 26 Oct 2026]	Fabaceae

503	Nitrogen fixing woody plant	
	Source(s)	**Notes**
	Allen, O. N. & Allen, E. K. (1981). The Leguminosae, a Source Book of Characteristics, Uses, and Nodulation. The University of Wisconsin Press, Madison, Wisconsin	"Why certain Cassia species are nodulated and others are not has long been an enigma. Significant physicochemical factors operative in Fistula and Senna militate against nodule formation. Root hairs are uncommon; when present, they are sparse and thick walled." [Unknown for Cassia brewsteri]

504	Geophyte (herbaceous with underground storage organs -- bulbs, corms, or tubers)	n
	Source(s)	**Notes**
	Australian Biological Resources Study. (1998). Flora of Australia Volume 12, Mimosaceae (excl. Acacia), Caesalpiniaceae. CSIRO, Melbourne	"Tree to 30 m tall, glabrous or variously pubescent."

601	Evidence of substantial reproductive failure in native habitat	n
	Source(s)	**Notes**
	Anderson, E. (2016). Plants of Central Queensland: Identification and Uses of Native and Introduced Species. CSIRO Publishing, Clayton South, Australia	[No evidence] "Distribution In coastal districts between Gympie and Maryborough and in areas to the west of Rockhampton and Townsville. Notes Leichhardt bean can become a problem woody weed when vegetation communities containing it are pulled out. It tends to produce root suckers that are hard to control. It is not eaten by animals. Leichhardt bean is regarded as a useful general-purpose hardwood and cabinet timber. The wood is pale pink with a pale, yellowish sapwood, close-grained and nicely marked."

602	Produces viable seed	y
	Source(s)	**Notes**

Qsn #	Question	Answer
	Reichman, S. M., Bellairs, S. M., & Mulligan, D. R. (2007). Effect of seed treatment on the emergence of Cassia brewsteri and Lysiphyllum carronii seeds stored in soil. The Rangeland Journal, 29(2), 133-137	"Abstract. Dormancy-breaking treatments are applied to seeds of many Australian species used for mine-site restoration in arid and semi-arid regions of Australia. Once seeds are sown, several months may pass before a rain event sufficient for germination. Therefore, it is important that treated seeds are able to survive in soil until conditions are hospitable for germination and growth. However, little is known about the effects of seed dormancy-breaking treatments on the longevity of seeds in soil. Two species that are potential candidates for use in mine site restoration programs in Queensland were trialed viz., Cassia brewsteri (F.Muell.) Benth and Lysiphyllum carronii (F.Muell.) Pedley. Untreated, boiled and acid treated seeds of the two species were sown in soil in a glasshouse. Seeds were watered immediately or kept dry for one or three months before watering and emergence was assessed. When applied to seeds incubated on filter paper in a germination cabinet, boiling and acid treatments were effective methods of breaking dormancy and increasing germination for both C. brewsteri and L. carronii seeds. However, in soil, seedling emergence from boiled seeds was the same or less than that of untreated seeds. Storage time in soil before watering had little effect on seedling emergence in the glasshouse, suggesting that most decreases in emergence compared with laboratory germination occurred after the input of water to the system. Treatments that promote germination in the laboratory can reduce seedling emergence in soil. Thus, treated seeds should be tested for survival in soil before use in mine-site restoration programs."
	Hodel, D. R., Musial, K., Henrich, J. E., Greby, K. J., & Phillips, T. (2015). Trees in the landscape, Part 12: Cassia brewsteri. PalmArbor, 2015(3), 1-18	"It can also be readily propagated by seeds, which are typically available in mid to late summer in California. Seeds germinate readily within a few weeks but they can also take longer, up to several months or more, and it is best to scarify and/or treat them with boiling water prior to planting (Elliot and Jones 1982; pers. observ.). Scarification seems to accelerate germination; in a simple study two lots of seeds of Brewster's cassia (65 and 33 seeds total) were divided in half, and half were scarified and half were not. All were then soaked in water for 24 hours. Nearly 100% of scarified seeds germinated within five days while only 20% of unscarified seeds germinated within the same time although after several weeks differences between scarified and unscarified were negligible."

603	Hybridizes naturally	
	Source(s)	**Notes**
	Cunningham, D. C., Walsh, K. B., Anderson, E. R., Harrison, D. K., & Carroll, B. J. (2002). Analysis of genetic diversity in Cassia brewsteri with randomly amplified DNA fingerprints (RAFs). Australian Systematic Botany, 15(2), 237-244	[Potentially] "Individuals at site 17 were identified as C. brewsteri but featured some morphological characteristics diagnostic of C. tomentella. The MDS ordination split Accession 17B from the C. brewsteri northern species and positioned the accession in between C. brewsteri and C. tomentella, but closer to C. brewsteri. These results suggest hybridisation between the two species, followed by introgression to 'pure' C. brewsteri." [This study using DNA fingerprints analyzed 30 accessions of C. brewsteri from across its natural range, along with C. tomentella, C. queenslandica and C. marksiana. Its abstract says the analysis supports dividing C. brewsteri into two subspecies and the suggestion that intergradation with C. tomentella can occur where their distributions meet.]

Qsn #	Question	Answer
604	**Self-compatible or apomictic**	
	Source(s)	**Notes**
	Daleys Fruit Tree Nursery. (2026). Brush Cassia - Cassia brewsteri var marksiana. https://www.daleysfruit.com.au/buy/-brush-cassia-tree.htm. [Accessed 29 Oct 2026]	"Plants required to Pollinate 1 (Self Pollinating)" [Possibly. This suggests a single isolated tree can produce viable seed on its own]

605	**Requires specialist pollinators**	n
	Source(s)	**Notes**
	Dear Arborist Plants. (2026). Leichhardt bean plant Cassia brewsteri Native tree stunning flower for pollinators. https://www.deararborist.com.au/product/leichhardtbean/156. [Accessed 29 Oct 2026]	"Attracts bees, butterflies & native wildlife"
	Australian Biological Resources Study. (1998). Flora of Australia Volume 12, Mimosaceae (excl. Acacia), Caesalpiniaceae. CSIRO, Melbourne	"Inflorescence of 10-50 flowers, 7-20 cm long, pendulous; pedicels 20-30 mm long; bracts and bracteoles persistent until anthesis. Petals 5-15 mm long. Fertile stamens 7 with 3 adaxial staminodes; filaments unequal; shortest adaxial ones 3-4 mm long; longest abaxial ones c. 15 mm long, sigmoidally curved, with a swelling above the mid-point; anthers subequal, 2-3 mm long." [Its flowers have an unusual arrangement of stamens, including elongated, curved stamens with poricidal anthers (pollen released through pores). This floral structure is characteristic of buzz pollination, in which bees vibrate the flowers to release pollen.]

606	**Reproduction by vegetative fragmentation**	y
	Source(s)	**Notes**
	Hodel, D. R., Musial, K., Henrich, J. E., Greby, K. J., & Phillips, T. (2015). Trees in the landscape, Part 12: Cassia brewsteri. PalmArbor, 2015(3), 1-18	"Anderson (1993) states that Brewster's cassia can become a problematic woody weed, one that can produce root suckers."
	Anderson, E. (2016). Plants of Central Queensland: Identification and Uses of Native and Introduced Species. CSIRO Publishing, Clayton South, Australia	"Leichhardt bean can become a problem woody weed when vegetation communities containing it are pulled out. It tends to produce root suckers that are hard to control."

607	**Minimum generative time (years)**	
	Source(s)	**Notes**
	Dear Arborist Plants. (2026). Leichhardt bean plant Cassia brewsteri Native tree stunning flower for pollinators. https://www.deararborist.com.au/product/leichhardtbean/156. [Accessed 29 Oct 2026]	"Fast-growing, flowers when young" [Age not specified]
	Noosa & District Landcare. (2026). Cassia brewster. https://noosalandcare.org/wp-content/uploads/Cassia-brewsteri.pdf. [Accessed 29 Oct 2026]	"Well known for its spectacular flowering, this Cassia grows quickly and flowers when quite young. Prolific quantities of flowers are produced most years."
	WRA Specialist. (2026). Personal Communication	Unknown, but possibly 2-3 years based on horticultural sites

701	**Propagules likely to be dispersed unintentionally (plants growing in heavily trafficked areas)**	n
	Source(s)	**Notes**

Qsn #	Question	Answer
	Australian Biological Resources Study. (1998). Flora of Australia Volume 12, Mimosaceae (excl. Acacia), Caesalpiniaceae. CSIRO, Melbourne	"Inflorescence of 10-50 flowers, 7-20 cm long, pendulous; pedicels 20-30 mm long; bracts and bracteoles persistent until anthesis. Petals 5-15 mm long. Fertile stamens 7 with 3 adaxial staminodes; filaments unequal; shortest adaxial ones 3-4 mm long; longest abaxial ones c. 15 mm long, sigmoidally curved, with a swelling above the mid-point; anthers subequal, 2-3 mm long." [No evidence and no means of external attachment]

702	Propagules dispersed intentionally by people	y
	Source(s)	**Notes**
	Hodel, D. R., Musial, K., Henrich, J. E., Greby, K. J., & Phillips, T. (2015). Trees in the landscape, Part 12: Cassia brewsteri. PalmArbor, 2015(3), 1-18	"Brewster's cassia makes a superb ornamental as a park, lawn, shade, and specimen, and even a street tree if pruned and trained properly. The conspicuous and showy flowers are sure to attract attention. When not in flower the dark green pinnate leaves are unusually handsome."
	Johnson, M. B. (1993). Woody legumes in southwest desert landscapes. Desert Plants, 10(4), 148-167	"Cassia brewsteri, a shrubby tree from Australia, produces masses of showy yellow and red to rusty orange flowers in drooping racemes. It grows successfully in the Los Angeles area and is being tested for suitability in Arizona."

703	Propagules likely to disperse as a produce contaminant	n
	Source(s)	**Notes**
	Australian Biological Resources Study. (1998). Flora of Australia Volume 12, Mimosaceae (excl. Acacia), Caesalpiniaceae. CSIRO, Melbourne	"Pod cylindric or somewhat compressed, transversely ribbed between the seeds, 15-45 cm long, 1-3 cm diam. Seeds transverse, 1-seriate, c. 8 mm long, each enveloped in a dry, suberous disc, smooth, dark." [Cassia brewsteri is a native Australian tree that is not cultivated as a crop and is not documented as a weed of agricultural systems. Its large seeds and pods make it an unlikely candidate for accidental inclusion in produce shipments, and no regulatory or scientific source identifies it as a produce contaminant.]

704	Propagules adapted to wind dispersal	n
	Source(s)	**Notes**
	Australian Biological Resources Study. (1998). Flora of Australia Volume 12, Mimosaceae (excl. Acacia), Caesalpiniaceae. CSIRO, Melbourne	"Pod cylindric or somewhat compressed, transversely ribbed between the seeds, 15-45 cm long, 1-3 cm diam. Seeds transverse, 1-seriate, c. 8 mm long, each enveloped in a dry, suberous disc, smooth, dark." [No evidence. Pod and seed morphology (heavy, flat, embedded in a wafer-like structure) and the absence of any documented wind-dispersal syndrome indicate that wind is not a significant dispersal vector for this species.]

705	Propagules water dispersed	n
	Source(s)	**Notes**
	Australian Biological Resources Study. (1998). Flora of Australia Volume 12, Mimosaceae (excl. Acacia), Caesalpiniaceae. CSIRO, Melbourne	"Pod cylindric or somewhat compressed, transversely ribbed between the seeds, 15-45 cm long, 1-3 cm diam. Seeds transverse, 1-seriate, c. 8 mm long, each enveloped in a dry, suberous disc, smooth, dark." [No evidence and not documented to occur in riparian habitats where water may facilitate dispersal]

706	Propagules bird dispersed	n

Qsn #	Question	Answer
	Source(s)	**Notes**
	Fair Dinkum Seeds. (2026). Leichardt Bean Cassia Brewsteri Cigar Cassia Seeds. https://fairdinkumseeds.com/products-page/natives-ferals-and-bushtucker-species/leichardt-bean-cassia-brewsteri-cigar-cassia-seeds/. [Accessed 29 Oct 2026]	"After the flowers the seed pods are produced and these provide a lot of food for the wildlife, especially parrots, pigeons, cuckoos, silver eyes and native Australian ravens." [Many bird species that feed on large legume seeds are seed predators–they crush or digest the seeds, destroying them.]
	WRA Specialist. (2026). Personal Communication	Bird consumption is reported anecdotally, but effective bird dispersal of viable propagules has not been demonstrated.

707	Propagules dispersed by other animals (externally)	n
	Source(s)	**Notes**
	Australian Biological Resources Study. (1998). Flora of Australia Volume 12, Mimosaceae (excl. Acacia), Caesalpiniaceae. CSIRO, Melbourne	"Pod cylindric or somewhat compressed, transversely ribbed between the seeds, 15–45 cm long, 1–3 cm diam. Seeds transverse, 1-seriate, c. 8 mm long, each enveloped in a dry, suberous disc, smooth, dark." [No means of external attachment]
	Hodel, D. R., Musial, K., Henrich, J. E., Greby, K. J., & Phillips, T. (2015). Trees in the landscape, Part 12: Cassia brewsteri. PalmArbor, 2015(3), 1–18	"While Anderson (1993) notes that animals do not eat Brewster's cassia, we have observed that the introduced, nonnative eastern fox squirrel severely ravages young, immature fruits, tearing them apart to get at the seeds, which they rapaciously devour. Indeed, it is rare to find any intact pods with seeds of Brewster's cassia on the tree by the end of the fruiting period; however, scores of eaten-out pods litter the ground under the tree" [No evidence. Animals are seed predators rather than disperses]

708	Propagules survive passage through the gut	
	Source(s)	**Notes**
	WRA Specialist. (2026). Personal Communication	Unknown. There is currently no evidence that Cassia brewsteri propagules survive passage through an animal's gut. Birds are documented feeding on the species, but their role as dispersers versus seed predators is unknown, and no study has tested post-gut-passage seed viability.

801	Prolific seed production (>1000/m2)	
	Source(s)	**Notes**
	Australian Biological Resources Study. (1998). Flora of Australia Volume 12, Mimosaceae (excl. Acacia), Caesalpiniaceae. CSIRO, Melbourne	"Pod cylindric or somewhat compressed, transversely ribbed between the seeds, 15–45 cm long, 1–3 cm diam. Seeds transverse, 1-seriate, c. 8 mm long, each enveloped in a dry, suberous disc, smooth, dark." [Densities unknown]
	Hodel, D. R., Musial, K., Henrich, J. E., Greby, K. J., & Phillips, T. (2015). Trees in the landscape, Part 12: Cassia brewsteri. PalmArbor, 2015(3), 1–18	"While Anderson (1993) notes that animals do not eat Brewster's cassia, we have observed that the introduced, nonnative eastern fox squirrel severely ravages young, immature fruits, tearing them apart to get at the seeds, which they rapaciously devour. Indeed, it is rare to find any intact pods with seeds of Brewster's cassia on the tree by the end of the fruiting period; however, scores of eaten-out pods litter the ground under the tree" [Unlikely in the continental US due to seed predation]

802	Evidence that a persistent propagule bank is formed (>1 yr)	
	Source(s)	**Notes**

Qsn #	Question	Answer
	Reichman, S. M., Bellairs, S. M., & Mulligan, D. R. (2007). Effect of seed treatment on the emergence of Cassia brewsteri and Lysiphyllum carronii seeds stored in soil. The Rangeland Journal, 29(2), 133-137	"Dormancy-breaking treatments are applied to seeds of many Australian species used for mine-site restoration in arid and semi-arid regions of Australia. Once seeds are sown, several months may pass before a rain event sufficient for germination. Therefore, it is important that treated seeds are able to survive in soil until conditions are hospitable for germination and growth. However, little is known about the effects of seed dormancy-breaking treatments on the longevity of seeds in soil. Two species that are potential candidates for use in mine site restoration programs in Queensland were trialed viz., Cassia brewsteri (F.Muell.) Benth and Lysiphyllum carronii (F.Muell.) Pedley. Untreated, boiled and acid treated seeds of the two species were sown in soil in a glasshouse. Seeds were watered immediately or kept dry for one or three months before watering and emergence was assessed. When applied to seeds incubated on filter paper in a germination cabinet, boiling and acid treatments were effective methods of breaking dormancy and increasing germination for both C. brewsteri and L. carronii seeds. However, in soil, seedling emergence from boiled seeds was the same or less than that of untreated seeds. Storage time in soil before watering had little effect on seedling emergence in the glasshouse, suggesting that most decreases in emergence compared with laboratory germination occurred after the input of water to the system. Treatments that promote germination in the laboratory can reduce seedling emergence in soil. Thus, treated seeds should be tested for survival in soil before use in mine-site restoration programs."
	WRA Specialist. (2026). Personal Communication	Unknown. Physical dormancy makes persistence plausible, but there's no direct evidence of persistence beyond a year.

803	Well controlled by herbicides	
	Source(s)	**Notes**
	Cunningham, D. C., Anderson, E. R., & Walsh, K. B. (2002). Ecology and biogeography of Cassia brewsteri: assessment of potential sites for cultivation. Australian Journal of Experimental Agriculture, 42(8), 1071-1080	"Agricultural studies of C. brewsteri have focussed on means of killing the plant (e.g. Back 1974a, 1974b)." [Unknown of herbicides were used or how effective they may have been]

804	Tolerates, or benefits from, mutilation, cultivation, or fire	y
	Source(s)	**Notes**
	Cunningham, D. C., Anderson, E. R., & Walsh, K. B. (2002). Ecology and biogeography of Cassia brewsteri: assessment of potential sites for cultivation. Australian Journal of Experimental Agriculture, 42(8), 1071-1080	"Cassia brewsteri was observed to regenerate well after clearing by pulling, ploughing and burning and was commonly found as a multi-stemmed root sucker in cattle-grazing regions. The number of stems ranged from 2 to 24. No small seedlings (<2 m) were observed, with all smaller individuals being root suckers."

805	Effective natural enemies present locally (e.g. introduced biocontrol agents)	
	Source(s)	**Notes**
	WRA Specialist. (2026). Personal Communication	Unknown

Summary of Risk Traits:

High-risk traits
Highly suited to tropical and subtropical climates, with broad climate tolerance
Native in a tropical region
Pasture weed in central Queensland, due to root suckering after clearing
Unpalatable to livestock, which avoid it and graze its competitors
Congener (Cassia fistula) is an environmental weed in Australia
Tolerates a wide range of soils, including pH 4.2 to 9.0
Produces viable seed
Reproduces vegetatively through root suckers
Deliberately planted as an ornamental and street tree
Regenerates after pulling, ploughing and burning

Low-risk traits
Not naturalized anywhere; found only in cultivation in Hawai‘i
No unintentional dispersal in trafficked areas
Not a produce contaminant
No adaptations for wind, water, bird or external animal dispersal
No spines, no climbing habit, no dense thickets
Not a grass, aquatic or geophyte
No reproductive failure in its native habitat
No specialist pollinators needed
No known toxicity to animals or humans
No record as a garden or environmental weed