

Family: *Myrtaceae*

Taxon: *Leptospermum laevigatum*

Synonym: *Fabricia laevigata* Gaertn. [basionym]

Common Name Australian myrtle
Australian teatree
coast teatree
Australiese mirt

Questionnaire : current 20090513 **Assessor:** Chuck Chimera **Designation:** H(HPWRA)
Status: Assessor Approved **Data Entry Person:** Chuck Chimera **WRA Score** 11

101	Is the species highly domesticated?	y=-3, n=0	n
102	Has the species become naturalized where grown?	y=1, n=-1	
103	Does the species have weedy races?	y=1, n=-1	
201	Species suited to tropical or subtropical climate(s) - If island is primarily wet habitat, then substitute "wet tropical" for "tropical or subtropical"	(0-low; 1-intermediate; 2-high) (See Appendix 2)	High
202	Quality of climate match data	(0-low; 1-intermediate; 2-high) (See Appendix 2)	High
203	Broad climate suitability (environmental versatility)	y=1, n=0	n
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	n=0, y = 1*multiplier (see Appendix 2)	n
303	Agricultural/forestry/horticultural weed	n=0, y = 2*multiplier (see Appendix 2)	n
304	Environmental weed	n=0, y = 2*multiplier (see Appendix 2)	y
305	Congeneric weed	n=0, y = 1*multiplier (see Appendix 2)	y
401	Produces spines, thorns or burrs	y=1, n=0	n
402	Allelopathic	y=1, n=0	n
403	Parasitic	y=1, n=0	n
404	Unpalatable to grazing animals	y=1, n=-1	n
405	Toxic to animals	y=1, n=0	n
406	Host for recognized pests and pathogens	y=1, n=0	n
407	Causes allergies or is otherwise toxic to humans	y=1, n=0	n
408	Creates a fire hazard in natural ecosystems	y=1, n=0	y
409	Is a shade tolerant plant at some stage of its life cycle	y=1, n=0	n
410	Tolerates a wide range of soil conditions (or limestone conditions if not a volcanic island)	y=1, n=0	y

411	Climbing or smothering growth habit	y=1, n=0	n
412	Forms dense thickets	y=1, n=0	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	y=1, n=-1	
604	Self-compatible or apomictic	y=1, n=-1	
605	Requires specialist pollinators	y=-1, n=0	n
606	Reproduction by vegetative fragmentation	y=1, n=-1	n
607	Minimum generative time (years)	1 year = 1, 2 or 3 years = 0, 4+ years = -1	>3
701	Propagules likely to be dispersed unintentionally (plants growing in heavily trafficked areas)	y=1, n=-1	y
702	Propagules dispersed intentionally by people	y=1, n=-1	y
703	Propagules likely to disperse as a produce contaminant	y=1, n=-1	n
704	Propagules adapted to wind dispersal	y=1, n=-1	y
705	Propagules water dispersed	y=1, n=-1	y
706	Propagules bird dispersed	y=1, n=-1	n
707	Propagules dispersed by other animals (externally)	y=1, n=-1	n
708	Propagules survive passage through the gut	y=1, n=-1	
801	Prolific seed production (>1000/m2)	y=1, n=-1	y
802	Evidence that a persistent propagule bank is formed (>1 yr)	y=1, n=-1	n
803	Well controlled by herbicides	y=-1, n=1	y
804	Tolerates, or benefits from, mutilation, cultivation, or fire	y=1, n=-1	y
805	Effective natural enemies present locally (e.g. introduced biocontrol agents)	y=-1, n=1	

Designation: H(HPWRA)

WRA Score **11**

Supporting Data:

101	2003. Weber, E.. Invasive Plant Species of the World. A Reference Guide to Environmental Weeds.. CABI Publishing, Wallingford, UK	No evidence that <i>L. laevigatum</i> is highly domesticated.
102	2010. WRA Specialist. Personal Communication.	NA
103	2010. WRA Specialist. Personal Communication.	NA
201	1995. Cronk, Q.C.B./Fuller, J.L.. Plant invaders: the threat to natural ecosystems. Chapman and Hall, London, UK	"Region of Origin: Australasia (Australia - Queensland, New South Wales, Victoria, South Australia to Tasmania). Climatic zone: wtemp. Dry-moist, subtrop. Moist..Region invaded: Africa (SE Cape). Climatic zone: wtemp. Arid-moist. Sandy flats, lowland and mountain fynbos, southern forest. Introduced via the Cape Town Botanic Garden."
202	1995. Cronk, Q.C.B./Fuller, J.L.. Plant invaders: the threat to natural ecosystems. Chapman and Hall, London, UK	Quality of climate match data: High [see 2.01]
203	2010. Calflora. The Calflora Database - <i>Leptospermum laevigatum</i> . http://www.calflora.org/cgi-bin/species_query.cgi?where-calrecnum=4727	Elevation: between 0 and 328 feet
203	2010. Urban Forest Ecosystems Institute. SelecTree - A Tree Selection Guide - <i>Leptospermum laevigatum</i> . http://selecttree.calpoly.edu/treedetail.lasso?rid=806	USDA Hardiness Zones: 9 - 10
204	1995. Cronk, Q.C.B./Fuller, J.L.. Plant invaders: the threat to natural ecosystems. Chapman and Hall, London, UK	"Region of Origin: Australasia (Australia - Queensland, New South Wales, Victoria, South Australia to Tasmania). Climatic zone: wtemp. Dry-moist, subtrop. Moist..Region invaded: Africa (SE Cape). Climatic zone: wtemp. Arid-moist. Sandy flats, lowland and mountain fynbos, southern forest. Introduced via the Cape Town Botanic Garden."
204	2003. Starr, F./Starr, K./Loope, L.L.. <i>Leptospermum</i> spp.. USGS - Biological Resources Haleakala Field Station Maui, http://www.hear.org/Pier/pdf/pohreports/leptospermum_spp.pdf	"In Hawai'i, at least 5 species of <i>Leptospermum</i> are now documented as naturalized. <i>L. laevigatum</i> and <i>L. scoparium</i> were both planted on Lana'i during forestry efforts in part to stabilize the eroding soils. According to Robert Hobby (DLNRDOFAW) (pers. comm.), both species stayed put for a long time then suddenly began to spread, with <i>L. scoparium</i> being the more aggressive of the two. With thick shrubby growth, not much else can grow beneath <i>Leptospermum</i> infestations. Seeds are light and numerous, being spread on the wind. In South Africa, <i>L. laevigatum</i> was originally cultivated as a hedge plant and is now spreading into natural areas (ARC-PPRI 2002)."
205	1999. Herbarium Pacificum Staff. New Hawaiian plant records for 1998. In: Evenhuis, Neal L. and Eldredge, Lucius G., eds. Records of the Hawaii Biological Survey for 1998. Part 1: Articles. Bishop Museum Occasional Papers. 58: 3-11.	" <i>Leptospermum laevigatum</i> (Gaertner) F. Muell. <i>L. fabricia</i> sensu Neal (1965), St. John (1973), non Bentham (1867) (= <i>Neofabricia myrtifolia</i> (Gaertner) J. Thompson) Material examined. O'AHU: Honolulu, 25 Jun 1956, Mrs. Crowe s.n. (BISH 60010). LĀNA'I: locality not stated, in bare areas among <i>Eucalyptus</i> trees, 10 Jun 1985, R. Hobby 2403."
205	2003. Weber, E.. Invasive Plant Species of the World. A Reference Guide to Environmental Weeds.. CABI Publishing, Wallingford, UK	Listed as introduced and/or invasive in Southern Africa [invasive], New Zealand [introduced], Western USA [introduced], and Hawaii [invasive] [demonstrates a history of repeated introductions outside its natural range]
301	2002. Wheeler, J.R./Marchant, N.G./Lewington, M.. Flora of the South West: Dicotyledons. UWA Publishing, Crawley, Western Australia	"Naturalized in disturbed mainly coastal areas. Recorded from Capel, Margaret River and Peaceful Bay, also near Albany and scattered localities from Perth to the south coast and east to east of Esperance."
301	2003. Weber, E.. Invasive Plant Species of the World. A Reference Guide to Environmental Weeds.. CABI Publishing, Wallingford, UK	Listed as introduced and/or invasive in Southern Africa [invasive], New Zealand [introduced], Western USA [introduced], and Hawaii [invasive].
301	2009. Keator, G./Steunenberg, M.J.. California plant families: west of the Sierran crest and deserts. University of California Press, Berkeley and Los Angeles, CA	"naturalized near the coast" [California]
302	2007. Randall, R.P.. Global Compendium of Weeds - <i>Leptospermum laevigatum</i> [Online Database]. Hawaii Ecosystems at Risk Project (HEAR), http://www.hear.org/gcw/species/leptospermum_laevigatum/	An environmental weed

303	2007. Randall, R.P.. Global Compendium of Weeds - <i>Leptospermum laevigatum</i> [Online Database]. Hawaii Ecosystems at Risk Project (HEAR), http://www.hear.org/gcw/species/leptospermum_laevigatum/	Primarily an environmental weed [See 3.04]
304	1994. Bennett, L.T.. The Expansion of <i>Leptospermum laevigatum</i> on the Yanakie Isthmus, Wilson's Promontory, under Changes in the Burning and Grazing Regimes. Australian Journal of Botany. 42: 555-564.	"In recent decades, <i>L. laevigatum</i> has progressively invaded adjacent grasslands (Calder 1986), woodlands (Hazard and Parsons 1977) and heathlands (Burrell 1981; Molnar et al. 1989). It has also invaded heathlands in western Victoria and in southern Western Australia where it was planted for ornamental purposes (Adair 1987; Keighery 1991). Once established, <i>L. laevigatum</i> can threaten the species richness of invaded communities by forming a dense canopy which suppresses understorey species (Molnar et al. 1989; Judd 1990). It is, therefore, recognised as an environmental weed in both Victoria and Western Australia (Humphries et al. 1991; Keighery 1991)."
304	1995. Tucker, K.C. /Richardson, D.M.. An Expert System for Screening Potentially Invasive Alien Plants in South African Fynbos. Journal of Environmental Management. 44: 309-338.	"TABLE 1. Widespread alien plants in fynbos (after Richardson et al., 1992)." [list includes <i>Leptospermum laevigatum</i>]
304	1996. Cheal, D.. Fire succession in heathlands and implications for vegetation management. In Biodiversity and Fire: The effects and effectiveness of fire management. Proceedings of the conference held 8-9 October 1994. Biodiversity Series, Paper No. 8. D	"Most work on woody weed invasion of heathlands has been done at Wilsons Promontory. As early as 1969 the Coast tea tree (<i>Leptospermum laevigatum</i>) was recognised as a major invader of heathlands (Burrell 1969). <i>Kunzea ambigua</i> is also rapidly establishing in heathlands of Wilsons Promontory (Frood 1979; Judd 1990). Establishment of these tall shrubs results in a major reduction in apparent species richness, elimination of the former dominants and many associated species as well as major change in regeneration patterns, fire behaviour and nutrient processes (Specht 1981b; Cheal 1984; Judd 1990). Both shrubs have invaded from adjoining communities and were not components of heathlands before the last few decades (Burrell 1981)."
304	2003. Weber, E.. Invasive Plant Species of the World. A Reference Guide to Environmental Weeds.. CABI Publishing, Wallingford, UK	"A native of coastal heath communities, this shrub is tolerant of salt spray and invades coastal vegetation. It can form extensive and dense thickets that displace the native vegetation. The masses of fine roots in the top soil allow an efficient exploitation of soil moisture and competition with native plants. Fruits remain on the tree until fire or other damage kills it, leading to mass release of seeds. These are dispersed by wind and water."
304	2004. Olckers, T.. Targeting emerging weeds for biological control in South Africa: the benefits of halting the spread of alien plants at an early stage of their invasion. South African Journal of Science. 100: 64-68.	"Table 1. Details of 25 biological control programmes launched against emerging weeds in South Africa." [includes Australian myrtle (<i>Leptospermum laevigatum</i> , Myrtaceae)]
304	2007. Hussey, B.M.J./Keighery, G. J./Dodd, J./Lloyd, S.G./Cousens, R.D.. Western Weeds. A Guide to the Weeds of Western Australia. The Weed Society of Western Australia, Victoria Park, WA	" <i>Leptospermum laevigatum</i> (coast tea-tree, Victorian tea-tree) was introduced as a garden plant and was often grown as a hedge, but it has become a major bushland weed. It is a large shrub or small tree to 5m, with white flowers and small, oblong-lanceolate grey-green leaves. It is spreading rapidly along road verges near the coast between Jurien Bay and Esperance, and is invading coastal heath and woodlands on sandy and lateritic soils."
304	2010. Australian Native Plant Society. <i>Leptospermum laevigatum</i> . http://anpsa.org.au/llae.html	Note: this species is a serious environmental weed in southern Western Australia and in South Africa and it would probably be best to not plant it outside of its natural range.
305	1985. Smith, C.W.. Impact of Alien Plants on Hawaii's Native Biota. http://www.hear.org/books/hte1985/pdfs/hte1985mith.pdf	"This small, scrubby tree forms thickets which crowd out other plants. On Lana'i, it has infested goat (<i>Capra hircus</i>)-eroded ridge tops, resulting in their stabilization. It appears to have allelopathic activity like many other members of the Myrtaceae. The seeds are dispersed by wind. Its response to fire in Hawai'i has not been established, nor has it been evaluated for biological control. It is found in mesic habitats between 300-700 m elevation. The principal infestations are on Lana'i and above La'ie in the Ko'olau Mountains, Oahu."
401	2003. Weber, E.. Invasive Plant Species of the World. A Reference Guide to Environmental Weeds.. CABI Publishing, Wallingford, UK	No spines, thorns or burrs produced
402	2002. Bayside City Council. Bushland Strategy. http://www.bayside.vic.gov.au/Documents/bushland_strategy_june_2002.pdf	"The mature stands of Coast Tea tree (<i>Leptospermum laevigatum</i>) present in heathlands and reserves, illustrate the potential that this species has for dominating other vegetation. Very few plant species are able to grow beneath the Coast Tea-tree ⁷ . This restricts weed growth and heathland growth." [competitive ability considered factor, rather than allelopathy]

402	2003. Weber, E.. Invasive Plant Species of the World. A Reference Guide to Environmental Weeds.. CABI Publishing, Wallingford, UK	No evidence of allelopathy
403	2003. Weber, E.. Invasive Plant Species of the World. A Reference Guide to Environmental Weeds.. CABI Publishing, Wallingford, UK	Not parasitic
404	1994. Bennett, L.T.. The Expansion of <i>Leptospermum laevigatum</i> on the Yanakie Isthmus, Wilson's Promontory, under Changes in the Burning and Grazing Regimes. Australian Journal of Botany. 42: 555-564.	"An increase in grazing pressure was identified as the probable cause of the <i>L. laevigatum</i> expansion due to: (1) the exposure of bare ground, and (2) the restriction of the feeding range of cattle (known to graze both <i>L. laevigatum</i> and <i>Acacia sophorae</i> on the Isthmus)...Cattle also grazed <i>Leptospermum laevigatum</i> on the aerodrome (Judd 1990) and probably prevented its spread in other areas where cattle congregated."
404	2010. San Francisco Botanical Gardens. In Bloom - Tea Tree. http://www.sfbotanicalgarden.org/Gardens/bloom_08_04.shtml	Can be used for tea, but is not very palatable.
405	1994. Bennett, L.T.. The Expansion of <i>Leptospermum laevigatum</i> on the Yanakie Isthmus, Wilson's Promontory, under Changes in the Burning and Grazing Regimes. Australian Journal of Botany. 42: 555-564.	No evidence of toxicity
406	2010. Urban Forest Ecosystems Institute. SelecTree - A Tree Selection Guide - <i>Leptospermum laevigatum</i> . http://selectree.calpoly.edu/treedetail.lasso?rid=806	Pest & Disease: Susceptible to Chlorosis, Oak Root Rot and Root Rot.
406	2010. WRA Specialist. Personal Communication.	No evidence that plant is a major alternate host of important pests or pathogens.
407	2003. Weber, E.. Invasive Plant Species of the World. A Reference Guide to Environmental Weeds.. CABI Publishing, Wallingford, UK	No evidence of toxicity listed among negative impacts
407	2010. Australian Native Plant Society. <i>Leptospermum laevigatum</i> . http://anpsa.org.au/-lae.html	They are commonly known as 'tea trees' due to the practice of early European settlers of using the leaves of some species as a tea substitute. [no mention of toxicity]
407	2010. Urban Forest Ecosystems Institute. SelecTree - A Tree Selection Guide - <i>Leptospermum laevigatum</i> . http://selectree.calpoly.edu/treedetail.lasso?rid=806	Health Hazard: None Known
408	2000. Chapman, R.A./Forsyth, G.G. Recommendations for property owners and occupiers: reducing fire risk to properties on the urban edge – Cape Peninsula. CSIR Report. ENV-S-C 2000-104: http://www.cibra.co.za/downloads/FireUrbanEdge.PDF	"Other hedges can have significant cores of thin woody stems, hidden by a canopy of green leaves. These types of vegetation should be avoided. Species like the Australian myrtle – <i>Leptospermum laevigatum</i> – besides being highly invasive, have very fine leaves and are highly flammable."
408	2003. Weber, E.. Invasive Plant Species of the World. A Reference Guide to Environmental Weeds.. CABI Publishing, Wallingford, UK	"can form extensive and dense thickets that displace the native vegetation." [dense stands likely to increase fire hazard in natural ecosystems]
409	2007. Greening Australia Nursery. <i>Leptospermum laevigatum</i> (Coastal Tea Tree). http://www.qld.greeningaustralia.org.au/gaqotsasp/07_plant_search/features.asp?SpeciesName=Leptospermum%20laevigatum	Aspect: Full sun
409	2010. Australian Native Plant Society. <i>Leptospermum laevigatum</i> . http://anpsa.org.au/-lae.html	Plants prefer full sun or partial shade and may be pruned severely if necessary.
409	2010. Trade Winds Fruit. Coast Tea Tree- <i>Leptospermum laevigatum</i> . http://www.tradewindsfruit.com/coast_tea_tree.htm	Grows best in full sun, though part shade can work as well.

410	1981. Burrell, J.P.. Invasion of Coastal Heaths of Victoria by <i>Leptospermum laevigatum</i> (J . Gaertn.) F. Muell.. Australian Journal of Botany. 29(6): 747 - 764.	" <i>L. laevigatum</i> has a discontinuous distribution along the coasts of New South Wales, Victoria, northern Tasmania and the Bass Strait islands. It is generally restricted to well drained soils containing free calcium carbonate or receiving salt spray. It commonly occurs on coastal dunes derived from beach sands containing variable amounts of calcium carbonate, from more than 50% (Dimmock 1957) to as low as 3-5% (Burgess and Drover 1953; Dimmock 1957; Turner et al. 1962). Soil development on dunes of low carbonate status is characterized by a gradual disappearance of calcium carbonate and a downward movement of iron (Burgess and Drover 1953; Bird 1965). When the carbonate content is high there is internal redeposition in the dune ridges, giving rise to dune limestone or aeolian calcarenite (Bird 1964). <i>L. laevigatum</i> also occurs in a number of other coastal communities, e.g. coastal woodland on aeolian calcarenite ridges (Burrell 1969) and coastal shrubland on well drained skeletal soils derived from a variety of rock types. Parsons (1966) suggested that the presence of <i>L. laevigatum</i> on granite is due to deposition of salt spray, and Pidgeon (1938) found that on Hawkesbury sandstone it is restricted to coastal cliffs."
410	2010. Trade Winds Fruit. Coast Tea Tree- <i>Leptospermum laevigatum</i> . http://www.tradewindsfruit.com/coast_tea_tree.htm	Can be adapted to pretty much any soil type provided
411	2003. Weber, E.. Invasive Plant Species of the World. A Reference Guide to Environmental Weeds.. CABI Publishing, Wallingford, UK	"A grey-green shrub or small tree of 2-10 m height, with spreading, rigid fissured stems, and a more or less smooth trunk." [does not have a climbing or smothering growth habit]
412	1981. Burrell, J.P.. Invasion of Coastal Heaths of Victoria by <i>Leptospermum laevigatum</i> (J . Gaertn.) F. Muell.. Australian Journal of Botany. 29(6): 747 - 764.	"At Point Lonsdale dead heath plants were found in areas invaded by <i>L. laevigatum</i> , while in <i>L. laevigatum</i> thicket at Tidal River, Wilson's Promontory, there were dead and moribund heath plants (Parsons 1966). Apparently, heath species are eliminated after invasion by <i>L. laevigatum</i> ."
412	2001. McClintock, E./Turner, R.G.. The trees of Golden Gate Park and San Francisco. Heyday Books, Berkeley, CA	"Always in coastal areas, and usually on sand dunes not far from the sea, it often forms dense thickets." [California]
412	2003. Weber, E.. Invasive Plant Species of the World. A Reference Guide to Environmental Weeds.. CABI Publishing, Wallingford, UK	"can form extensive and dense thickets that displace the native vegetation."
501	2003. Weber, E.. Invasive Plant Species of the World. A Reference Guide to Environmental Weeds.. CABI Publishing, Wallingford, UK	Terrestrial shrub or small tree
502	2003. Weber, E.. Invasive Plant Species of the World. A Reference Guide to Environmental Weeds.. CABI Publishing, Wallingford, UK	Myrtaceae [not a grass]
503	2003. Weber, E.. Invasive Plant Species of the World. A Reference Guide to Environmental Weeds.. CABI Publishing, Wallingford, UK	Myrtaceae [not a nitrogen fixing woody plant]
504	2003. Weber, E.. Invasive Plant Species of the World. A Reference Guide to Environmental Weeds.. CABI Publishing, Wallingford, UK	Not a geophyte
601	1981. Burrell, J.P.. Invasion of Coastal Heaths of Victoria by <i>Leptospermum laevigatum</i> (J . Gaertn.) F. Muell.. Australian Journal of Botany. 29(6): 747 - 764.	No evidence of substantial reproductive failure in native habitat
602	2010. Trade Winds Fruit. Coast Tea Tree- <i>Leptospermum laevigatum</i> . http://www.tradewindsfruit.com/coast_tea_tree.htm	Propagation: By seeds. Seeds remain viable for several years.
603	2010. Waitakere City Council. Amenity Planting Guidelines For Biodiversity Protection in Watakere City - Including Unwanted Plants. http://www.waitakere.govt.nz/cnlser/pw/greennetnetk/pdf/amenity-planting-guideline-gn.pdf	"Non-local species with potential to cross pollinate or hybridise with local species or local populations: Australian tea tree or coast tea tree (<i>Leptospermum laevigatum</i>)" [unknown whether plant can naturally hybridize]

604	1993. O'Brien, S.P. /Calder, D.M.. Reproductive Biology and Floral Phenologies of the Sympatric Species <i>Leptospermum myrsinoides</i> and <i>L. continentale</i> (Myrtaceae). Australian Journal of Botany. 41(5): 527 - 539.	"The reproductive biology and floral phenologies of co-occurring <i>Leptospermum myrsinoides</i> and <i>L. continentale</i> were investigated. Both species have similar floral structure and both are protandrous. Anther dehiscence is staggered over approximately 6 days and pollen viability remains high for at least 3 days. The styles of both species are short at anthesis but extend during the next 6 days to approximately the same height as the anthers. The stigmas of these species do not achieve maximum receptivity until at least 4 days after anthesis. Both species are self compatible. At the three sites studied, <i>L. myrsinoides</i> and <i>L. continentale</i> have separate flowering times with <i>L. myrsinoides</i> always flowering first. Within populations of each species, plants reached first flower and peak flower in the same order in 1989 and 1990, implying genetic control over flowering time. It is suggested that protandry in these species enhances the likelihood of outcrossing and the staggered release of pollen coupled with the degree of overlap within flowering populations increases the number of potential mates available to each flower." [self-compatibility for <i>L. laevigatum</i> unknown, but related species are self-compatible]
604	1995. Cronk, Q.C.B./Fuller, J.L.. Plant invaders: the threat to natural ecosystems. Chapman and Hall, London, UK	"Breeding syst.: hermaphrodite"
605	1995. Roubik, D.W.. Pollination of cultivated plants in the tropics. FAO Services Bulletin 118. FAO, Rome, Italy	Bee-pollinated
606	2010. Australian Native Plant Society. <i>Leptospermum laevigatum</i> . http://anpsa.org.au/lae.html	Propagation is easy from both seed and cuttings. However, the variegated form(s) can only be propagated from cuttings as it will not come true from seed. [no evidence of reproduction by vegetative fragmentation]
606	2010. Western Australian Herbarium. FloraBase — The Western Australian Flora - <i>Leptospermum laevigatum</i> . Department of Environment and Conservation, http://florabase.calm.wa.gov.au/browse/profile/5850	Vegetative regeneration strategy. Occasionally resprouts from base.
607	1994. Bennett, L.T.. The Expansion of <i>Leptospermum laevigatum</i> on the Yanakie Isthmus, Wilson's Promontory, under Changes in the Burning and Grazing Regimes. Australian Journal of Botany. 42: 555-564.	"The age of first seed set in <i>L. laevigatum</i> is about 5 years (Burrell 1969). If the interval between consecutive fires is less than 5 years, then the regeneration of <i>L. laevigatum</i> after the second burn should be minimal (given its absence from the soil seed bank). It follows that an interval between fires of greater than 5 years could favour <i>L. laevigatum</i> expansion."
607	2010. Western Australian Herbarium. FloraBase — The Western Australian Flora - <i>Leptospermum laevigatum</i> . Department of Environment and Conservation, http://florabase.calm.wa.gov.au/browse/profile/5850	Time to first flowering. 4 years.
701	2010. Western Australian Herbarium. FloraBase — The Western Australian Flora - <i>Leptospermum laevigatum</i> . Department of Environment and Conservation, http://florabase.calm.wa.gov.au/browse/profile/5850	"Dispersal. Wind, vehicles, soil movement, water, garden refuse." [seeds dispersed unintentionally by vehicles and disposal of garden refuse]
702	2001. McClintock, E./Turner, R.G.. The trees of Golden Gate Park and San Francisco. Heyday Books, Berkeley, CA	Planted ornamentally
703	2010. Western Australian Herbarium. FloraBase — The Western Australian Flora - <i>Leptospermum laevigatum</i> . Department of Environment and Conservation, http://florabase.calm.wa.gov.au/browse/profile/5850	No evidence of dispersal as a produce contaminant
704	2003. Weber, E.. Invasive Plant Species of the World. A Reference Guide to Environmental Weeds.. CABI Publishing, Wallingford, UK	"Fruits remain on the tree until fire or other damage kills it, leading to mass release of seeds. These are dispersed by wind and water."

704	2010. PlantNET. New South Wales Flora Online - <i>Leptospermum laevigatum</i> (Gaertn.) F. Muell.. Royal Botanic Gardens & Domain Trust., Sydney http://plantnet.rbgsyd.nsw.gov.au/cgi-bin/NSWfl.pl?page=nswfl&lvl=sp&name=Leptospermum~laevigatum	"Fruit usually 7–8 mm diam. with a slightly fleshy outer surface; valves somewhat exerted but forming a flat-topped fruit. Seeds usually winged."
705	2003. Weber, E.. <i>Invasive Plant Species of the World. A Reference Guide to Environmental Weeds..</i> CABI Publishing, Wallingford, UK	"Fruits remain on the tree until fire or other damage kills it, leading to mass release of seeds. These are dispersed by wind and water."
706	2003. Weber, E.. <i>Invasive Plant Species of the World. A Reference Guide to Environmental Weeds..</i> CABI Publishing, Wallingford, UK	"Fruits are woody, flat capsules of 7-8 mm length and with 8-10 vales, releasing numerous small seeds." [not fleshy-fruited, and no evidence of dispersal by birds]
707	2010. Western Australian Herbarium. FloraBase — The Western Australian Flora - <i>Leptospermum laevigatum</i> . Department of Environment and Conservation, http://florabase.calm.wa.gov.au/browse/profile/5850	Dispersal. Wind, vehicles, soil movement, water, garden refuse. [no evidence of external dispersal by animals, and no means of external attachment]
708	2010. WRA Specialist. Personal Communication.	Unknown if propagules survive passage through gut [unlikely that seeds would be consumed]
801	1995. Cronk, Q.C.B./Fuller, J.L.. <i>Plant invaders: the threat to natural ecosystems.</i> Chapman and Hall, London, UK	"Seed production high, but low viability reported"
801	2003. State of Western Australia. Coastal Planning and Management Manual. Western Australian Planning Commission, Perth, WA http://www.planning.wa.gov.au/Publications/8_Weeds_Management.pdf?id=857	Many woody weeds, for example the Victorian Tea Tree (<i>Leptospermum laevigatum</i>), produce thousands of viable seeds.
801	2010. Weeds Australia. Weed Identification - <i>Leptospermum laevigatum</i> . Australian Weeds Committee, http://www.weeds.org.au/cgi-bin/weedident.cgi?tpl=plant.tpl&ibra=all&card=E12	"It has abundant white flowers 15-20 mm across which develop into woody capsules which subsequently open to shed large numbers of seeds."
802	1991. Judd, T.S./Ashton, D.H.. <i>Fruit Clustering in the Myrtaceae: Seed Survival in Capsules Subjected to Experimental Heating.</i> Australian Journal of Botany. 39(3): 241 - 245.	"Both <i>E. regnans</i> and <i>L. laevigatum</i> are readily killed by fire, have little or no soil-seed storage and regenerate prolifically from canopy stored seed (Cremer 1965; Hazard and Parsons 1977; Ashton 1981; Burrell 1981). By comparison, <i>K. ambigua</i> has a limited capacity to regenerate vegetatively after mild fire and may accumulate considerable quantities of seed in the soil (Judd 1990)."
802	2010. Western Australian Herbarium. FloraBase — The Western Australian Flora - <i>Leptospermum laevigatum</i> . Department of Environment and Conservation, http://florabase.calm.wa.gov.au/browse/profile/5850	Seedbank persistence. Short, days-1 year.
803	2003. State of Western Australia. Coastal Planning and Management Manual. Western Australian Planning Commission, Perth, WA http://www.planning.wa.gov.au/Publications/8_Weeds_Management.pdf?id=857	"Slash or fell thickets, then burn when dry. Alternatively remove all brush from the site immediately as the seeds are released from the capsules upon drying. Foliar spray regrowth with Garzon® (100mL in 10L water plus 25mL wetting agent). Herbicide mixed with diesel sprayed onto the lower trunk is reported to kill trees. Landcare groups in Esperance have used a Glyphosate soaked sponge attached to the tree using a wire clip to successfully kill trees."
803	2003. Weber, E.. <i>Invasive Plant Species of the World. A Reference Guide to Environmental Weeds..</i> CABI Publishing, Wallingford, UK	"Control includes cutting trees and burning the area about 4 years later to kill emerging seedlings."
803	2010. Western Australian Herbarium. FloraBase — The Western Australian Flora - <i>Leptospermum laevigatum</i> . Department of Environment and Conservation, http://florabase.calm.wa.gov.au/browse/profile/5850	Suggested method of management and control. Hand pull seedlings. Fell mature plants. Resprouting has been recorded in some areas. Where resprouting has been observed, apply 250 ml Access® in 15 L of diesel to bottom 50 cm of trunk (basal bark).
804	1981. Burrell, J.P.. <i>Invasion of Coastal Heaths of Victoria by <i>Leptospermum laevigatum</i> (J. Gaertn.) F. Muell..</i> Australian Journal of Botany. 29(6): 747 - 764.	"Though it is readily killed by fire, seed in the capsules is protected: soon after a fire the capsules open and germination is prolific during the following winter." [adults plants killed by fire, but fire stimulates seed germination]

804	1994. Bennett, L.T.. The Expansion of <i>Leptospermum laevigatum</i> on the Yanakie Isthmus, Wilson's Promontory, under Changes in the Burning and Grazing Regimes. Australian Journal of Botany. 42: 555-564.	" <i>Leptospermum laevigatum</i> is killed by fire and does not regenerate vegetatively (Burrell 1969; Molnar et al. 1989). Seed of <i>L. laevigatum</i> does not remain viable in the soil, but plants produce dense seed crops and seed capsules are retained for 1-3 years at Wilson's Promontory (compared with less than 1 year elsewhere; see Molnar et al. 1989; Judd 1990). Capsules protect seeds from fire but open soon after, resulting in a mass release of viable seed from the canopy (Burrell 1969). Burrell (1969, 1981) argued that fire also enhanced <i>L. laevigatum</i> establishment by disturbing the existing vegetation and by increasing the availability of nutrients such as phosphorus on acidic, siliceous sands."
804	2010. Australian Native Plant Society. <i>Leptospermum laevigatum</i> . http://anpsa.org.au/-/lae.html	Plants prefer full sun or partial shade and may be pruned severely if necessary. [tolerates heavy pruning]
805	2010. WRA Specialist. Personal Communication.	Unknown [no information on natural enemies]
