Taxon: Leptospermum lanigerum (Sol. ex Aiton) Sm. **Family:** Myrtaceae

Common Name(s): woolly teatree **Synonym(s):** L. lanigerum (Sol. ex Aiton) Sm. var.
Leptospermum pubescens Willd.
Leptospermum tomentosum hort. ex
Philadelphus laniger Sol. ex Aiton

Assessor: Chuck Chimera **Status:** Assessor Approved **End Date:** 27 Jul 2020

WRA Score: 9.0 **Designation:** H(HPWRA) **Rating:** High Risk

Keywords: Shrub, Naturalized (UK), Flammable, Thicket-forming, 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)	Low
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	n
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	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)	n
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		
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	y=1, n=0	n
408	Creates a fire hazard in natural ecosystems	y=1, n=0	y

Qsn #	Question	Answer Option	Answer
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		
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		
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	n
801	Prolific seed production (>1000/m2)		
802	Evidence that a persistent propagule bank is formed (>1 yr)	y=1, n=-1	y
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**
	Benson, D. & McDougall, L. (1998). Ecology of Sydney plant species. Part 6. Dicotyledon family Myrtaceae. Cunninghamia 5(4): 808-987	[Long history of cultivation, but not domestication] "Both herbarium specimens and seeds of L. lanigerum were collected from Adventure Bay by Furneaux. These reached England upon Adventure's return in July 1774. In William Aiton's Hortus Kewensis (l 789), a catalogue of plants cultivated at the Royal Botanic Gardens, Kew, the introduction of L. lanigerum by Furneaux is recorded."

102	**Has the species become naturalized where grown?**	
	Source(s)	**Notes**
	WRA Specialist. (2020). Personal Communication	NA

103	**Does the species have weedy races?**	
	Source(s)	**Notes**
	WRA Specialist. (2020). 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"**	**Low**
	Source(s)	**Notes**
	USDA, Agricultural Research Service, National Plant Germplasm System. (2020). Germplasm Resources Information Network (GRIN-Taxonomy). National Germplasm Resources Laboratory, Beltsville, Maryland. https://npgsweb.ars-grin.gov/. [Accessed 23 Jul 2020]	"Native Australasia AUSTRALIA: Australia [Tasmania, New South Wales (s.e.), South Australia (s.e.), Victoria]"

202	**Quality of climate match data**	**High**
	Source(s)	**Notes**
	USDA, Agricultural Research Service, National Plant Germplasm System. (2020). Germplasm Resources Information Network (GRIN-Taxonomy). National Germplasm Resources Laboratory, Beltsville, Maryland. https://npgsweb.ars-grin.gov/. [Accessed 23 Jul 2020]	

203	**Broad climate suitability (environmental versatility)**	**n**
	Source(s)	**Notes**
	Benson, D. & McDougall, L. (1998). Ecology of Sydney plant species. Part 6. Dicotyledon family Myrtaceae. Cunninghamia 5(4): 808-987	"Altitude: 600-900 m Annual rainfall: 700-1400 mm"

Qsn #	Question	Answer
	Dave's Garden. (2020). Leptospermum lanigerum. https://davesgarden.com/guides/pf/go/56548/. [Accessed 24 Jul 2020]	"Hardiness: USDA Zone 8b: to -9.4 °C (15 °F) USDA Zone 9a: to -6.6 °C (20 °F)"
	Aussie Green Thumb. (2020). Plant of the Month – Leptospermum lanigerum. https://aussiegreenthumb.com/leptospermum-lanigerum/. [Accessed 24 Jul 2020]	"This variety of Leptospermum is endemic to the southern parts of the east coast of Australia, encompassing Victoria and Tasmania. As this would suggest, it prefers a cool to cold climate, though success in termperate area's is possible. This variety is not recommended for sub tropical or tropical area's, though they have been grown along the coast around Brisbane."
	Plants for a Future. (2020). Leptospermum lanigerum. https://pfaf.org. [Accessed 24 Jul 2020]	"USDA hardiness 7-10"

204	Native or naturalized in regions with tropical or subtropical climates	n
	Source(s)	**Notes**
	USDA, Agricultural Research Service, National Plant Germplasm System. (2020). Germplasm Resources Information Network (GRIN-Taxonomy). National Germplasm Resources Laboratory, Beltsville, Maryland. https://npgsweb.ars-grin.gov/. [Accessed 23 Jul 2020]	"Native Australasia AUSTRALIA: Australia [Tasmania, New South Wales (s.e.), South Australia (s.e.), Victoria]"
	Aussie Green Thumb. (2020). Plant of the Month – Leptospermum lanigerum. https://aussiegreenthumb.com/leptospermum-lanigerum/. [Accessed 23 Jul 2020]	"This variety of Leptospermum is endemic to the southern parts of the east coast of Australia, encompassing Victoria and Tasmania. As this would suggest, it prefers a cool to cold climate, though success in termperate area's is possible. This variety is not recommended for sub tropical or tropical area's, though they have been grown along the coast around Brisbane."
	Woodgyer, E. (1995). 277. Leptospermum lanigerum: Myrtaceae. Curtis's Botanical Magazine, 12(4), 186-190	"Widespread in Tasmania, and on mainland Australia, from south-eastern South Australia to southern and eastern Victoria and extending as scattered populations to the Central Tablelands of New South Wales."
	Imada, C. (2019). Hawaiian Naturalized Vascular Plants Checklist (February 2019 update). Bishop Museum Technical Report 69. Bishop Museum, Honolulu, HI	No evidence

205	Does the species have a history of repeated introductions outside its natural range?	?
	Source(s)	**Notes**
	Dave's Garden. (2020). Leptospermum lanigerum. https://davesgarden.com/guides/pf/go/56548/. [Accessed 24 Jul 2020]	"This plant is said to grow outdoors in the following regions: Portland, Oregon"
	Online Atlas of the British and Irish flora. (2020). Leptospermum lanigerum. https://www.brc.ac.uk/plantatlas/plant/leptospermum-lanigerum. [Accessed 24 Jul 2020]	"This species was introduced into cultivation in 1774. It was first recorded on Tresco in 1963."

301	Naturalized beyond native range	y

Qsn #	Question	Answer
	Source(s)	**Notes**
	Online Atlas of the British and Irish flora. (2020). Leptospermum lanigerum. https://www.brc.ac.uk/plantatlas/plant/leptospermum-lanigerum. [Accessed 23 Jul 2020]	"An evergreen shrub grown in gardens and found naturalised in Abbey Wood, Tresco (Isles of Scilly), but less abundantly than L. scoparium. Reproduction is by seed. Lowland."

302	Garden/amenity/disturbance weed	n
	Source(s)	**Notes**
	Online Atlas of the British and Irish flora. (2020). Leptospermum lanigerum. https://www.brc.ac.uk/plantatlas/plant/leptospermum-lanigerum. [Accessed 24 Jul 2020]	"An evergreen shrub grown in gardens and found naturalised in Abbey Wood, Tresco (Isles of Scilly), but less abundantly than L. scoparium. Reproduction is by seed. Lowland." [No negative impacts described]
	Plants for a Future. (2020). Leptospermum lanigerum. https://pfaf.org. [Accessed 24 Jul 2020]	"Weed Potential No"
	Randall, R.P. (2017). A Global Compendium of Weeds. 3rd Edition. Perth, Western Australia. R.P. Randall	Labeled as a weed, according to the Global Register of Introduced and Invasive Species (GRIIS). However, a search of this website determined that no negative impacts have been documented.

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	n
	Source(s)	**Notes**
	Online Atlas of the British and Irish flora. (2020). Leptospermum lanigerum. https://www.brc.ac.uk/plantatlas/plant/leptospermum-lanigerum. [Accessed 24 Jul 2020]	[No impacts reported] "An evergreen shrub grown in gardens and found naturalised in Abbey Wood, Tresco (Isles of Scilly), but less abundantly than L. scoparium. Reproduction is by seed. Lowland."
	Randall, R.P. (2017). A Global Compendium of Weeds. 3rd Edition. Perth, Western Australia. R.P. Randall	No evidence

305	Congeneric weed	y
	Source(s)	**Notes**
	Weber, E. 2017. Invasive Plant Species of the World, 2nd Edition: A Reference Guide to Environmental Weeds. CABI Publishing, Wallingford, UK	""Leptospermum laevigatum" … "This shrub is native to coastal heath communities in Australia. The plant is tolerant of salt spray and invades mainly coastal vegetation. It can form extensive and dense thickets displacing the native vegetation and preventing any regeneration of native woody species.""

Qsn #	Question	Answer
	Smith, C.W. 1985. Impact of Alien Plants on Hawaii's Native Biota. Pp. 180-250 in Stone & Scott (eds.). Hawaii's terrestrial ecosystems: preservation & management. CPSU, Honolulu, HI	"Leptospermum scoparium … This small, scrubby tree forms thickets which crowd out other plants. On Lanai, it has infested goat (Capra hircus)-eroded ridgetops, resulting in their stabilization. It appears to have allelopathic activity like many other members of the Myrtaceae. The seeds are dispersed by wind." … "It is elevation found in mesic habitats between 300-700 m. The principal infestations are on Lana'i and above La'ie in the Ko'olau Mountains, Oahu."
	WRA Specialist. (2020). Personal Communication	Leptospermum polygalifolium is targeted for control by the Koʻolau Mountains Watershed Partnership, Oahu, Hawaiian Islands

401	Produces spines, thorns or burrs	n
	Source(s)	**Notes**
	Woodgyer, E. (1995). 277. Leptospermum lanigerum: Myrtaceae. Curtis's Botanical Magazine, 12(4), 186-190	[No evidence] "Erect bushy shrub to c. 5(-6) min height, glandular in all its parts. Main stem with close, fibrous bark. Young stems with greyish brown bark, often peeling in narrow strips, pubescent (often densely so), diminishing with age. Leaves alternate, entire, dull greyish green; blade 5-- 15 mm long, 2-4 mm wide, shape variable, oblong to obovate to oblanceolate (often narrowly so), apex slightly inrolled, acute with a short pungent or blunt point, base tapering to a short petiole c. 0.5 mm long, grey-pubescent at least on lower surface, sometimes glabrous on upper surface, rarely glabrous on both, 3-veined from the base (often indistinct)."

402	Allelopathic	
	Source(s)	**Notes**
	WRA Specialist. (2020). Personal Communication	Unknown. No evidence found

403	Parasitic	n
	Source(s)	**Notes**
	Woodgyer, E. (1995). 277. Leptospermum lanigerum: Myrtaceae. Curtis's Botanical Magazine, 12(4), 186-190	"Erect bushy shrub to c. 5(-6) min height, glandular in all its parts." [Myrtaceae. No evidence]

404	Unpalatable to grazing animals	y
	Source(s)	**Notes**

Qsn #	Question	Answer
	Moser, S., & Greet, J. (2018). Unpalatable neighbours reduce browsing on woody seedlings. Forest Ecology and Management, 414: 41-46	"Our research also provides insights into the relative palatability of the woody species studied, with E. camphora plants most susceptible to browsing. It is likely that, similar to other Eucalyptus spp., this species is highly palatable to mammalian browsers, such as the swamp wallaby and deer (Hollis et al., 1986; Forsyth and Davis, 2011). L. lanigerum and M. squarrosa plants experienced similar levels of browsing, indicating these species may be similarly less palatable. Nonetheless, browsing pressure can vary between plant species seasonally, as the diets of browsers can change depending on the available resources and nutritional quality of the plants (Moser et al., 2006). However, the differences in browsing damage observed are likely to represent substantial differences in palatability as they were demonstrated over both the short- (1-month) and mid- (2-year) term."
	Understorey Network. (2020). Leptospermum lanigerum. http://www.understorey-network.org.au. [Accessed 27 Jul 2020]	"Resistant to wildlife browsing due to its unpalatability."

405	Toxic to animals	n
	Source(s)	**Notes**
	Plants for a Future. (2020). Leptospermum lanigerum. https://pfaf.org. [Accessed 24 Jul 2020]	"Known Hazards - None known"
	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

406	Host for recognized pests and pathogens	n
	Source(s)	**Notes**
	Woodgyer, E. (1995). 277. Leptospermum lanigerum: Myrtaceae. Curtis's Botanical Magazine, 12(4), 186-190	"Leptospermums are seldom troubled by pests apart from outbreaks of glasshouse red spider mite Tetranychus spp. and glasshouse whitefly Trialeurodes vaporariorum. These can be controlled effectively by biological predators Phytoseiulus persimilis for the former, Encarsia formosa for the latter."
	Shoot Gardening. (2020). Leptospermum lanigerum (Woolly tea tree). https://www.shootgardening.co.uk/plant/leptospermum-lanigerum. [Accessed 24 Jul 2020]	"Pests - Generally pest-free. Diseases - Generally disease-free."
	Giblin, F. & Carnegie, A. J. (2014). Puccinia psidii (Myrtle Rust) – Australian host list. Version current at 24 Sept. 2014. http://www.anpc.asn.au/resources/Myrtle_Rust.html. [Accessed 27 Jul 2020]	Leptospermum lanigerum listed as a host. Impacts unspecified. Unknown if Leptospermum lanigerum could serve as an important host to the fungus Austropuccinia psidii, but this pathogen is already present in the Hawaiian Islands and has been documented on a fairly wide host range of native and non-native plants. The cultivation of Leptospermum lanigerum is therefore unlikely to significantly affect the distribution of Austropuccinia psidii.

407	Causes allergies or is otherwise toxic to humans	n

Qsn #	Question	Answer
	Source(s)	**Notes**
	Plants for a Future. (2020). Leptospermum lanigerum. https://pfaf.org. [Accessed 24 Jul 2020]	"Known Hazards - None known"
	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	y
	Source(s)	**Notes**
	Tasmanian Fire Research Fund. (2006). Fire retardant garden plants for the urban fringe and rural areas. https://www.fire.tas.gov.au. [Accessed 24 Jul 2020]	"High Flammability - These plants have been shown to be highly flammable and should not be planted or allowed to remain inside your house's Building Protection Zone. They should also be avoided in the Fuel Modified Zone. Move these plants away from your house and replace them with less flammable plants." [Leptospermum lanigerum included among the high flammability plants]
	Pyrke, A. F., & Marsden-Smedley, J. B. (2005). Fire-attributes categories, fire sensitivity, and flammability of Tasmanian vegetation communities. Tasforests, 16, 35-46	"Table 1. Fire-attributes category, fi re sensitivity and flammability codes for TASVEG communities, listed in decreasing order of fire sensitivity. (F-A Cat = fire-attributes category, FS = fire sensitivity, Fl = flammability; for fire-attributes category codes, see Table 2; fire sensitivity and flammability codes—E = extreme, VH = very high, H = high, M= moderate, L = low, N = not rated)" [Leptospermum lanigerum – Melaleuca squarrosa swamp forest rated as having high fire sensitivity and moderate flammability]

409	Is a shade tolerant plant at some stage of its life cycle	y
	Source(s)	**Notes**
	Shoot Gardening. (2020). Leptospermum lanigerum (Woolly tea tree). https://www.shootgardening.co.uk/plant/leptospermum-lanigerum. [Accessed 24 Jul 2020]	"Plant in well-drained, acid to neutral soil in full sun to partial shade. This species will tolerate full shade."
	Australian Native Plant Society. (2020). Leptospermum lanigerum. http://anpsa.org.au/l-lan.html. [Accessed 27 Jul 2020]	"Plants prefer full sun or partial shade and may be pruned severely if necessary."

410	Tolerates a wide range of soil conditions (or limestone conditions if not a volcanic island)	y
	Source(s)	**Notes**
	Australian Native Plant Society. (2020). Leptospermum lanigerum. http://anpsa.org.au/l-lan.html. [Accessed 27 Jul 2020]	"It is hardy in moist soils in a range of climates."
	Understorey Network. (2020). Leptospermum lanigerum. http://www.understorey-network.org.au. [Accessed 27 Jul 2020]	"Wide range of soil from acidic to strongly alkaline. Occurs in both ill-drained and well-drained sites on moderately fertile soils in areas of high rainfall."

411	Climbing or smothering growth habit	n

Qsn #	Question	Answer
	Source(s)	**Notes**
	Woodgyer, E. (1995). 277. Leptospermum lanigerum: Myrtaceae. Curtis's Botanical Magazine, 12(4), 186-190	"Erect bushy shrub to c. 5(-6) min height, glandular in all its parts."

412	Forms dense thickets	y
	Source(s)	**Notes**
	Charles Sturt University. (2020). South West Slopes Revegetation Guide - Leptospermum lanigerum. https://science.csu.edu.au. [Accessed 27 Jul 2020]	"Foliage excellent refuge for small birds, particularly in dense thickets."
	Corbett, S., & Balmer, J. (2001). Map and description of the Warra vegetation. Tasforests 13(1), 45-76	"Leptospermum lanigerum (mapped as L) dominates scrubs in creek-lines and wet soaks where Bauera rubioides is usually abundant in the ground layer and Nematolepis squamea may also be an important component." … "Melaleuca squarrosa swamp forests occur south-east of Glovers Bluff and in other places along the Weld and Picton Rivers. This vegetation is often devoid of Gymnoschoenus but instead is dominated by dense thickets of Melaleuca squarrosa, Leptospermum lanigerum and Gahnia grandis."
	Pearce, J., & Minchin, P. R. (2001). Vegetation of the Yellingbo Nature Conservation Reserve and its relationship to the distribution of the helmeted honeyeater, bell miner and white-eared honeyeater. Wildlife Research, 28(1), 41-52	"Leptospermum lanigerum (woolly teatree) closed scrub Predominantly occurring along the margins of Cockatoo Creek, this group of 81 sites consists of moderately dense stands of Leptospermum lanigerum, with a sparse understorey of sedges"
	Coates, F., & Tolsma, A. (2012). The peat-forming spring wetlands of the Strathbogie plateau – floristics and environmental relationships. Cunninghamia 12(4): 363–383	"This group is distinguished by well-developed stands of Leptospermum lanigerum (>50% cover, to 10 m high) with Eucalyptus camphora or occasionally Acacia melanoxylon emergent above the dense canopy, generally sparse (<10% cover) but occasionally with up to 25% cover (Appendix 1). The understorey is generally quite open, and mainly consists of a sparse cover of younger Leptospermum lanigerum individuals, and blackberry at some sites."
	Good, M., Smith, R. and Pettit, N. (2017). Forests and Woodlands of Australia's Rivers and Floodplains. Pp. 516-43 In D. A. Keith, ed., Australian Vegetation, 3rd Edition. Cambridge University Press,	[A dominant component of thicket vegetation. Unknown if presence excludes other vegetation] "Riparian thickets occur in regularly flooded stream beds and floodplain terraces where Melaleuca squarrosa and Leptospermum lanigerum are frequently dominant, with an understorey of fems and sedges."

501	Aquatic	n
	Source(s)	**Notes**
	Benson, D. & McDougall, L. (1998). Ecology of Sydney plant species. Part 6. Dicotyledon family Myrtaceae. Cunninghamia 5(4): 808-987	"Habitat: Along watercourses, sandy swamps." [Terrestrial, but occurs in close proximity to aquatic habitats]

Qsn #	Question	Answer
502	Grass	n
	Source(s)	**Notes**
	USDA, Agricultural Research Service, National Plant Germplasm System. (2020). Germplasm Resources Information Network (GRIN-Taxonomy). National Germplasm Resources Laboratory, Beltsville, Maryland. https://npgsweb.ars-grin.gov/. [Accessed 23 Jul 2020]	Family: Myrtaceae Subfamily: Myrtoideae Tribe: Leptospermeae

Qsn #	Question	Answer
503	Nitrogen fixing woody plant	n
	Source(s)	**Notes**
	USDA, Agricultural Research Service, National Plant Germplasm System. (2020). Germplasm Resources Information Network (GRIN-Taxonomy). National Germplasm Resources Laboratory, Beltsville, Maryland. https://npgsweb.ars-grin.gov/. [Accessed 23 Jul 2020]	Family: Myrtaceae Subfamily: Myrtoideae Tribe: Leptospermeae

Qsn #	Question	Answer
504	Geophyte (herbaceous with underground storage organs -- bulbs, corms, or tubers)	n
	Source(s)	**Notes**
	Woodgyer, E. (1995). 277. Leptospermum lanigerum: Myrtaceae. Curtis's Botanical Magazine, 12(4), 186-190	"Erect bushy shrub to c. 5(-6) min height, glandular in all its parts."

Qsn #	Question	Answer
601	Evidence of substantial reproductive failure in native habitat	n
	Source(s)	**Notes**
	Australian Native Plant Society. (2020). Leptospermum lanigerum. http://anpsa.org.au/l-lan.html. [Accessed 27 Jul 2020]	"Conservation Status: Not considered to be at risk in the wild."

Qsn #	Question	Answer
602	Produces viable seed	y
	Source(s)	**Notes**
	Benson, D. & McDougall, L. (1998). Ecology of Sydney plant species. Part 6. Dicotyledon family Myrtaceae. Cunninghamia 5(4): 808-987	
	Online Atlas of the British and Irish flora. (2020). Leptospermum lanigerum. https://www.brc.ac.uk/plantatlas/plant/leptospermum-lanigerum. [Accessed 23 Jul 2020]	"An evergreen shrub grown in gardens and found naturalised in Abbey Wood, Tresco (Isles of Scilly), but less abundantly than L. scoparium. Reproduction is by seed. Lowland."
	Woodgyer, E. (1995). 277. Leptospermum lanigerum: Myrtaceae. Curtis's Botanical Magazine, 12(4), 186-190	"'Propagation of L. lanigerum may be carried out from seed or vegetatively. Seeds are sown in February on fine compost, without covering as it is very fine, and placed in a temperate environment with a day-time temperature of 21 °C, at night 10°C. Germination should take approximately three weeks. There should not be any dormancy problems; however, treating the seed pot with smoke for half-an-hour may improve germination."

Qsn #	Question	Answer
603	**Hybridizes naturally**	
	Source(s)	**Notes**
	Thompson, J. (1989). A revision of the genus Leptospermum (Myrtaceae). Telopea 3(3): 301-449	[Possibly yes. Several natural hybrids documented between other species, and L. lanigerum able to naturalized in cultivation] "As well, natural hybrids have been found between L. laevigatum and L. myrsinoides, L. parvifolium and L. squarrosum, L. arachnoides and L. squarrosum, L. juniperinum and L. polygalifolium, L. grandifolium and L. sphaerocarpum, and L. nitidum and L. lanigerum. L. emarginatum and L. petersonii have been found to hybridise in cultivation."

604	**Self-compatible or apomictic**	
	Source(s)	**Notes**
	Thompson, J. (1989). A revision of the genus Leptospermum (Myrtaceae). Telopea 3(3): 301-449	[Unknown, but other taxa are self-compatible] "That plants are self-compatible has been shown for L. scoparium in New Zealand (Burrell 1965)."

605	**Requires specialist pollinators**	**n**
	Source(s)	**Notes**
	Charles Sturt University. (2020). South West Slopes Revegetation Guide - Leptospermum lanigerum. https://science.csu.edu.au. [Accessed 27 Jul 2020]	"Flowers are a good pollen and nectar source for many native insects, including moths and butterflies"
	Kingston, A. B., & McQuillan, P. B. (2000). Are pollination syndromes useful predictors of floral visitors in Tasmania?. Austral Ecology, 25(6), 600-609	"Table 2. Flowering plants, their floral characteristics, and the numbers of anthophile species which they supported" [Leptospermum lanigerum visited by 17 bee species, 2 wasp species, 18 fly species, 11 beetle species, and 3 butterfly species]
	Understorey Network. (2020). Leptospermum lanigerum. http://www.understorey-network.org.au. [Accessed 27 Jul 2020]	"The flowers attract insects and many nectar feeding birds."

606	**Reproduction by vegetative fragmentation**	**y**
	Source(s)	**Notes**
	Understorey Network. (2020). Leptospermum lanigerum. http://www.understorey-network.org.au. [Accessed 27 Jul 2020]	"Also useful in gully erosion control as the fibrous roots help stabilise the soil, and the branches can produce roots when they are in contact with moist soil. "
	Charles Sturt University. (2020). South West Slopes Revegetation Guide - Leptospermum lanigerum. https://science.csu.edu.au. [Accessed 27 Jul 2020]	"Excellent in controlling creekside and gully erosion due to soil-binding fibrous roots. Branches root when contact made with moist soil."

607	**Minimum generative time (years)**	
	Source(s)	**Notes**
	Shoot Gardening. (2020). Leptospermum lanigerum (Woolly tea tree). https://www.shootgardening.co.uk/plant/leptospermum-lanigerum. [Accessed 27 Jul 2020]	"10-20 years To maturity"

Qsn #	Question	Answer
	Charles Sturt University. (2020). South West Slopes Revegetation Guide - Leptospermum lanigerum. https://science.csu.edu.au. [Accessed 27 Jul 2020]	"Characteristics: Very hardy. Moderate growth rate. Lifespan up to several decades."
	Benson, D. & McDougall, L. (1998). Ecology of Sydney plant species. Part 6. Dicotyledon family Myrtaceae. Cunninghamia 5(4): 808-987	"Primary juvenile period:" [No details provided]

701	Propagules likely to be dispersed unintentionally (plants growing in heavily trafficked areas)	n
	Source(s)	**Notes**
	Aussie Green Thumb. (2020). Plant of the Month – Leptospermum lanigerum. https://aussiegreenthumb.com/leptospermum-lanigerum/. [Accessed 27 Jul 2020]	"Flowers are followed by small, woody fruits containing many seeds; the fruits remain unopened until they are removed from the plant or the plant dies." [Small seeds could be inadvertently dispersed, but persistence of capsules on plants makes this unlikely]

702	Propagules dispersed intentionally by people	y
	Source(s)	**Notes**
	USDA, Agricultural Research Service, National Plant Germplasm System. (2020). Germplasm Resources Information Network (GRIN-Taxonomy). National Germplasm Resources Laboratory, Beltsville, Maryland. https://npgsweb.ars-grin.gov/. [Accessed 24 Jul 2020]	"Cultivated" [Ornamental]
	Randall, R.P. (2017). A Global Compendium of Weeds. 3rd Edition. Perth, Western Australia. R.P. Randall	"Dispersed by: Humans, Escapee"
	Wiersema, J.H. & León, B. (2013). World Economic Plants: A Standard Reference. Second Edition. CRC Press, Boca Raton, FL	"Leptospermum lanigerum (Sol. ex Aiton) Sm. CN: woolly teatree ECON: Environ. (ornamental) DIST: native: Austral. cult. : also cult."

703	Propagules likely to disperse as a produce contaminant	
	Source(s)	**Notes**
	Understorey Network. (2020). Leptospermum lanigerum. http://www.understorey-network.org.au. [Accessed 27 Jul 2020]	"Seeds only released when the plant meets with adversity such as injury, drought or fire." [No evidence, but possible that seeds could be dispersed through cut flower and foliage uses]

704	Propagules adapted to wind dispersal	y
	Source(s)	**Notes**
	Charles Sturt University. (2020). South West Slopes Revegetation Guide - Leptospermum lanigerum. https://science.csu.edu.au. [Accessed 27 Jul 2020]	"Regeneration: From seed, dispersed by wind and water. Regenerates well along creeks and rivers and in swampy areas."

705	Propagules water dispersed	y
	Source(s)	**Notes**

Qsn #	Question	Answer
	Thompson, J. (1989). A revision of the genus Leptospermum (Myrtaceae). Telopea 3(3): 301-449	"In sandy swamps and along watercourses." [Distribution suggests water may facilitate dispersal, but seeds reported to remain in capsules on plants]
	Charles Sturt University. (2020). South West Slopes Revegetation Guide - Leptospermum lanigerum. https://science.csu.edu.au. [Accessed 27 Jul 2020]	"Regeneration: From seed, dispersed by wind and water. Regenerates well along creeks and rivers and in swampy areas."

706	Propagules bird dispersed	n
	Source(s)	**Notes**
	Benson, D. & McDougall, L. (1998). Ecology of Sydney plant species. Part 6. Dicotyledon family Myrtaceae. Cunninghamia 5(4): 808-987	[No evidence. Not fleshy-fruited] "Fruit/seed: Woody capsule 5--10 mm diam., with seeds 2.5 mm long. Retained on plant as canopy-stored seedbank. Dehiscing about a year after flowering (Andersen 1989)."

707	Propagules dispersed by other animals (externally)	n
	Source(s)	**Notes**
	Charles Sturt University. (2020). South West Slopes Revegetation Guide - Leptospermum lanigerum. https://science.csu.edu.au. [Accessed 27 Jul 2020]	"Regeneration: From seed, dispersed by wind and water. Regenerates well along creeks and rivers and in swampy areas." [No] evidence. No means of external attachment]

708	Propagules survive passage through the gut	n
	Source(s)	**Notes**
	Charles Sturt University. (2020). South West Slopes Revegetation Guide - Leptospermum lanigerum. https://science.csu.edu.au. [Accessed 27 Jul 2020]	"Regeneration: From seed, dispersed by wind and water. Regenerates well along creeks and rivers and in swampy areas."
	Thompson, J. (1989). A revision of the genus Leptospermum (Myrtaceae). Telopea 3(3): 301-449	[No evidence of consumption. Not fleshy-fruited] "Fruit persistent, 5-10 mm in diameter, the rim not or scarcely extended, the lower part broadly rounded but often flat-based, the surface lifting and becoming scaly, the valves very woody, raised only so as to form a low, rather lobed, dome depressed in the centre, after opening the surface lifting and the valves often a little more raised, usually ultimately becoming broader than the base. Mature seeds c. 2.5 mm long, narrowly linear-cuneiform, curved, striate."

801	Prolific seed production (>1000/m2)	
	Source(s)	**Notes**
	Australian Native Plant Society. (2020). Leptospermum lanigerum. http://anpsa.org.au/l-lan.html. [Accessed 27 Jul 2020]	"Flowers are followed by small, woody fruits containing many seeds; the fruits remain unopened until they are removed from the plant or the plant dies."
	Thompson, J. (1989). A revision of the genus Leptospermum (Myrtaceae). Telopea 3(3): 301-449	[Possibly. Densities unspecified] "In all species seeds are produced in great abundance." ... "Mature seeds c. 2.5 mm long, narrowly linear-cuneiform, curved, striate."

802	Evidence that a persistent propagule bank is formed (>1 yr)	y

Qsn #	Question	Answer
	Source(s)	**Notes**
	Charles Sturt University. (2020). South West Slopes Revegetation Guide - Leptospermum lanigerum. https://science.csu.edu.au. [Accessed 27 Jul 2020]	"Seeds retained for many years, and shed after adversity such as injury, drought or fire. Collect capsules from older wood. Seeds highly viable, remaining so for many years in storage."
	Benson, D. & McDougall, L. (1998). Ecology of Sydney plant species. Part 6. Dicotyledon family Myrtaceae. Cunninghamia 5(4): 808-987	[Forms a persistent "canopy" seed bank] "Fruit/seed: Woody capsule 5--10 mm diam., with seeds 2.5 mm long. Retained on plant as canopy-stored seedbank. Dehiscing about a year after flowering (Andersen 1989)."

803	**Well controlled by herbicides**	
	Source(s)	**Notes**
	Motooka, P., Castro, L., Nelson, D., Nagai, G. & Ching,L. 2003. Weeds of Hawaii's Pastures and Natural Areas: An Identification and Management Guide. CTAHR, UH Manoa, Honolulu, HI	"Leptospermum scoparium … Reported to be sensitive to triclopyr" [Related invasive taxon controlled by herbicides. Efficacy on L. lanigerum unknown]

804	**Tolerates, or benefits from, mutilation, cultivation, or fire**	**y**
	Source(s)	**Notes**
	Australian Native Plant Society. (2020). Leptospermum lanigerum. http://anpsa.org.au/l-lan.html. [Accessed 27 Jul 2020]	"Plants prefer full sun or partial shade and may be pruned severely if necessary."

805	**Effective natural enemies present locally (e.g. introduced biocontrol agents)**	
	Source(s)	**Notes**
	Giblin, F. & Carnegie, A. J. (2014). Puccinia psidii (Myrtle Rust) – Australian host list. Version current at 24 Sept. 2014. http://www.anpc.asn.au/resources/Myrtle_Rust.html. [Accessed 27 Jul 2020]	Leptospermum lanigerum listed as a host. Impacts unspecified

Summary of Risk Traits:

High Risk / Undesirable Traits
• Naturalized in the United Kingdom
• Other species are invasive
• Unpalatable
• Tolerates shade
• Flammable, could increase fire risk
• Tolerates many soil types
• Forms dense thickets in native range
• Reproduces by seeds and vegetatively when branches contact moist soil
• Seeds dispersed by wind, water and intentionally by people
• Seeds able to be stored for extended periods, and persist on plants, forming a canopy-stored seed bank
• Tolerates and resprouts from severe pruning

Low Risk Traits
• Temperate species, may only be a threat at cooler, higher elevations of tropical island ecosystems
• No reports of negative impacts where naturalized
• Unarmed (no spines, thorns, or burrs)
• Non-toxic
• Ornamental
• Seeds may be retained on plants for extended periods, limiting dispersal unless exposed to fire or drought