

<b>Taxon:</b> Aloe 'Hercules'	<b>Family:</b> Xanthorrhoeaceae
<b>Common Name(s):</b> Hercules aloe	<b>Synonym(s):</b> Aloe bainesii x dichotoma Aloe barberae x dichotoma

<b>Assessor:</b> Chuck Chimera	<b>Status:</b> Assessor Approved	<b>End Date:</b> 5 Oct 2016
<b>WRA Score:</b> -4.0	<b>Designation:</b> L	<b>Rating:</b> Low Risk

**Keywords:** Hybrid, Tree, Unarmed, Full Sun, Non-Toxic

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)	Low
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	?
301	Naturalized beyond native range	y = 1*multiplier (see Appendix 2), n= question 205	n
302	Garden/amenity/disturbance weed	n=0, y = 1*multiplier (see Appendix 2)	n
303	Agricultural/forestry/horticultural weed	n=0, y = 2*multiplier (see Appendix 2)	n
304	Environmental weed	n=0, y = 2*multiplier (see Appendix 2)	n
305	Congeneric weed	n=0, y = 1*multiplier (see Appendix 2)	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		
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	y=1, n=0	n
409	Is a shade tolerant plant at some stage of its life cycle	y=1, n=0	n

Qsn #	Question	Answer Option	Answer
410	Tolerates a wide range of soil conditions (or limestone conditions if not a volcanic island)		
411	Climbing or smothering growth habit	y=1, n=0	n
412	Forms dense thickets	y=1, n=0	n
501	Aquatic	y=5, n=0	n
502	Grass	y=1, n=0	n
503	Nitrogen fixing woody plant	y=1, n=0	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		
603	Hybridizes naturally		
604	Self-compatible or apomictic		
605	Requires specialist pollinators	y=-1, n=0	y
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		
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	y=1, n=-1	n
801	Prolific seed production (>1000/m <sup>2</sup> )	y=1, n=-1	n
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		
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
	San Marcos Growers. 2016. Aloe 'Hercules' - Hercules Aloe. <a href="http://www.smgrowers.com/products/plants/plantdisplay.asp?plant_id=3330#">http://www.smgrowers.com/products/plants/plantdisplay.asp?plant_id=3330#</a> . [Accessed 5 Oct 2016]	[An artificial hybrid with more vigor than parents] "Aloe 'Hercules' (Hercules Aloe) A large hybrid tree aloe that is the result of a cross between the large Tree Aloe, Aloe barberae (A. bainesii) and the smaller Quiver Tree, Aloe dichotoma. The plant exhibits hybrid vigor, growing faster than Aloe barberae with a heavier trunk, thicker branches and peeling bark more typical of Aloe dichotoma but with broad triangular dark green leaves."
102	Has the species become naturalized where grown?	
	Source(s)	Notes
	WRA Specialist. 2016. Personal Communication	NA
103	Does the species have weedy races?	
	Source(s)	Notes
	WRA Specialist. 2016. 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
	WRA Specialist. 2016. Personal Communication	Aloe barberae, also known as the tree aloe, is a species of aloe native to South Africa northwards to Mozambique. Both parents of Aloe 'Hercules' are native to regions which include subtropical climates
	USDA, ARS, Germplasm Resources Information Network, 2016. National Plant Germplasm System [Online Database]. <a href="http://www.ars-grin.gov/npgs/index.html">http://www.ars-grin.gov/npgs/index.html</a> . [Accessed 5 Oct 2016]	Aloe dichotoma native to Southern Africa: Namibia; South Africa - Northern Cape.
202	Quality of climate match data	Low
	Source(s)	Notes
	San Marcos Growers. 2016. Aloe 'Hercules' - Hercules Aloe. <a href="http://www.smgrowers.com/products/plants/plantdisplay.asp?plant_id=3330#">http://www.smgrowers.com/products/plants/plantdisplay.asp?plant_id=3330#</a> . [Accessed 5 Oct 2016]	"Aloe 'Hercules' (Hercules Aloe) A large hybrid tree aloe that is the result of a cross between the large Tree Aloe, Aloe barberae (A. bainesii) and the smaller Quiver Tree, Aloe dichotoma."
203	Broad climate suitability (environmental versatility)	n
	Source(s)	Notes

Qsn #	Question	Answer
	San Marcos Growers. 2016. Aloe 'Hercules' - Hercules Aloe. <a href="http://www.smgrowers.com/products/plants/plantdisplay.asp?plant_id=3330#">http://www.smgrowers.com/products/plants/plantdisplay.asp?plant_id=3330#</a> . [Accessed 5 Oct 2016]	"Hardiness reports are that it is hardier than either parent and can tolerate temperatures down to at least 20° F though unverified reports are that it has been hardy only to 23°F."
	Dave's Garden. 2016. Aloe 'Hercules' - Aloe barberae x dichotoma. <a href="http://davesgarden.com/guides/pf/go/168051/">http://davesgarden.com/guides/pf/go/168051/</a> . [Accessed 5 Oct 2016]	"Hardiness: USDA Zone 9b: to -3.8 °C (25 °F) USDA Zone 10a: to -1.1 °C (30 °F) USDA Zone 10b: to 1.7 °C (35 °F) USDA Zone 11: above 4.5 °C (40 °F)"

204	Native or naturalized in regions with tropical or subtropical climates	y
	Source(s)	Notes
	Dave's Garden. 2016. Aloe 'Hercules' - Aloe barberae x dichotoma. <a href="http://davesgarden.com/guides/pf/go/168051/">http://davesgarden.com/guides/pf/go/168051/</a> . [Accessed 5 Oct 2016]	"Hardiness: USDA Zone 9b: to -3.8 °C (25 °F) USDA Zone 10a: to -1.1 °C (30 °F) USDA Zone 10b: to 1.7 °C (35 °F) USDA Zone 11: above 4.5 °C (40 °F)"
	San Marcos Growers. 2016. Aloe 'Hercules' - Hercules Aloe. <a href="http://www.smgrowers.com/products/plants/plantdisplay.asp?plant_id=3330#">http://www.smgrowers.com/products/plants/plantdisplay.asp?plant_id=3330#</a> . [Accessed 5 Oct 2016]	[Parent species are native to regions that extend into subtropical regions] "Aloe 'Hercules' (Hercules Aloe) A large hybrid tree aloe that is the result of a cross between the large Tree Aloe, Aloe barberae (A. bainesii) and the smaller Quiver Tree, Aloe dichotoma. "

205	Does the species have a history of repeated introductions outside its natural range?	?
	Source(s)	Notes
	Dave's Garden. 2016. Aloe 'Hercules' - Aloe barberae x dichotoma. <a href="http://davesgarden.com/guides/pf/go/168051/">http://davesgarden.com/guides/pf/go/168051/</a> . [Accessed 5 Oct 2016]	"This plant has been said to grow in the following regions: Gilbert, Arizona Mesa, Arizona Phoenix, Arizona (2 reports) Glen Avon, California Long Beach, California Norwalk, California Reseda, California San Diego, California"

301	Naturalized beyond native range	n
	Source(s)	Notes
	The National Gardening Association. 2016. Aloe (Aloe 'Hercules') in the Aloes Database. <a href="http://garden.org/plants/view/707513/Aloe-Aloe-Hercules/">http://garden.org/plants/view/707513/Aloe-Aloe-Hercules/</a> . [Accessed 5 Oct 2016]	"Uses: Will Naturalize"
	Randall, R.P. 2012. A Global Compendium of Weeds. 2nd Edition. Department of Agriculture and Food, Western Australia	No evidence

302	Garden/amenity/disturbance weed	n
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Qsn #	Question	Answer
	Source(s)	Notes
	Randall, R.P. 2012. A Global Compendium of Weeds. 2nd Edition. Department of Agriculture and Food, Western Australia	No evidence

303	Agricultural/forestry/horticultural weed	n
	Source(s)	Notes
	Randall, R.P. 2012. A Global Compendium of Weeds. 2nd Edition. Department of Agriculture and Food, Western Australia	No evidence

304	Environmental weed	n
	Source(s)	Notes
	Randall, R.P. 2012. A Global Compendium of Weeds. 2nd Edition. Department of Agriculture and Food, Western Australia	No evidence

305	Congeneric weed	y
	Source(s)	Notes
	Queensland Government. 2011. Weeds of Australia. Broad-leaf aloe. <i>Aloe maculata</i> . <a href="http://keyserver.lucidcentral.org/weeds/data/080c0106-040c-4508-8300-0b0a06060e01/media/Html/Aloe_maculata.htm">http://keyserver.lucidcentral.org/weeds/data/080c0106-040c-4508-8300-0b0a06060e01/media/Html/Aloe_maculata.htm</a> . [Accessed 5 Oct 2016]	"Broad-leaf aloe ( <i>Aloe maculata</i> ) is a moderately common environmental weed in south-eastern Australia. It is also seen as a minor weed or "sleeper weed" in other parts of the country. This succulent plant is widely cultivated as a garden ornamental and often becomes established in bushland after being dumped in garden waste." ... "Broad-leaf aloe ( <i>Aloe maculata</i> ) is currently of most concern in Victoria, where it is thought to pose a serious threat to one or more vegetation formations. This invasive succulent is listed as an environmental weed by several local and regional authorities in this state (e.g. in the City of Hume, the Mornington Peninsula Shire, the North Grampians Shire, Swan Hill Rural City, Banyule City and the Goulburn Broken Catchment). It is also regarded as an important environmental weed in French Island National Park and has been recorded in Yarra Bend Park in suburban Melbourne. In South Australia, broad-leaf aloe ( <i>Aloe maculata</i> ) is a problem in coastal dunes in the Adelaide Metropolitan area. It has also been recorded in conservation areas near Adelaide (i.e. Onkaparinga River Recreation Park and Para Wirra Recreation Park). In New South Wales, it has been occasionally recorded in the Tamworth and Sydney districts. However, it may also be naturalized on the south coast and in the Great Lakes Shire on the central coast (i.e. it is listed as a weed in Burgess Road Reserve)."

401	Produces spines, thorns or burrs	n
	Source(s)	Notes

Qsn #	Question	Answer
	San Marcos Growers. 2016. Aloe 'Hercules' - Hercules Aloe. <a href="http://www.smgrowers.com/products/plants/plantdisplay.asp?plant_id=3330#">http://www.smgrowers.com/products/plants/plantdisplay.asp?plant_id=3330#</a> . [Accessed 5 Oct 2016]	[No evidence] "Aloe 'Hercules' (Hercules Aloe) A large hybrid tree aloe that is the result of a cross between the large Tree Aloe, <i>Aloe barberae</i> ( <i>A. bainesii</i> ) and the smaller Quiver Tree, <i>Aloe dichotoma</i> . The plant exhibits hybrid vigor, growing faster than <i>Aloe barberae</i> with a heavier trunk, thicker branches and peeling bark more typical of <i>Aloe dichotoma</i> but with broad triangular dark green leaves. Relatively young large specimens can be seen in southern California and it seems likely that they will grow to 30 to 40 feet."

402	Allelopathic	
	Source(s)	Notes
	Arowosegbe, S., Wintola, O. A., & Afolayan, A. J. (2012). Phytochemical constituents and allelopathic effect of <i>Aloe ferox</i> Mill. root extract on tomato. <i>Journal of Medicinal Plants Research</i> , 6(11), 2094-2099	[Unknown. Allelopathy documented in genus] "Phytochemical constituents of the root extract of <i>Aloe ferox</i> were estimated using standard quantitative analysis. The extract contained phenols, flavonoids, flavonols, tannins alkaloids and saponins in different proportions; with more of phenols and saponins. Allelopathic effect of the aqueous root extract of the plant on tomato was also investigated. The extract reduced the germination of the tomato seeds. However, root and shoot elongations of the tomato seedlings were significantly inhibited by the extract, with the percentage inhibition increasing as the concentration of the extract increased. The observed allelopathic activity of the root extract of <i>A. ferox</i> on the seed germination and seedling growth of tomato was attributed to the presence of the allelopathic phytochemicals in <i>A. ferox</i> roots."

403	Parasitic	n
	Source(s)	Notes
	USDA, ARS, Germplasm Resources Information Network, 2016. National Plant Germplasm System [Online Database]. <a href="http://www.ars-grin.gov/npgs/index.html">http://www.ars-grin.gov/npgs/index.html</a> . [Accessed 5 Oct 2016]	"Family: Xanthorrhoeaceae" [No evidence]

404	Unpalatable to grazing animals	
	Source(s)	Notes
	Cousins, S. R. (2013). The ecology of <i>Aloe plicatilis</i> : a tree aloe endemic to the Cape fynbos, South Africa. MSc Thesis. University of the Witwatersrand, Johannesburg, South Africa	[Other taxa are browsed] "Elephants have a predilection for consuming aloes and will selectively feed on them if available (Parker and Bernard, 2008; 2009). Greater kudu are also known to browse aloe leaves; baboons feed on the leaves and flowers, while porcupine and black rhinoceros are known to uproot entire plants (Parker and Bernard, 2009)."

405	Toxic to animals	n
	Source(s)	Notes
	Dave's Garden. 2016. Aloe 'Hercules' - <i>Aloe barberae</i> x <i>dichotoma</i> . <a href="http://davesgarden.com/guides/pf/go/168051/">http://davesgarden.com/guides/pf/go/168051/</a> . [Accessed 5 Oct 2016]	Danger: N/A

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, but parent species have medicinal properties

406	Host for recognized pests and pathogens	
	Source(s)	Notes
	Reynolds, T. 2004. Aloes: The genus Aloe. CRC Press, Boca Raton, FL	[Generic description] "Cultivated aloes are more susceptible to arthropod pests than those growing in their natural habitats. The main arthropod pests include mealy bugs, scales, beetles, mites and aphids."
	Kelly, J. and Olsen, M. 2011. Problems and Pests of Agave, Aloe, Cactus and Yucca. Cooperative Extension College of Agriculture and Life Sciences The University of Arizona Tucson, Arizona	[Generic description] "Mites are not insects, but are closely related to spiders. Mites are very small and can be observed only with a magnifying lens or microscope. The mites that attack aloe and other species such as Haworthia and Gasteria are eriophyid mites, a group of plant-feeding mites that often cause galling or abnormal growth of the host plant tissues..." ... "Unlike their spider mite relatives that have four sets of legs, aloe mites have only two sets of legs. They cause malformations in plants by injecting a chemical that induces galling into the plant tissue. Stems, leaves and flowers may be affected. The damage to the aloe plant is irreversible, and infected plants should be removed. After removal, place all infected plants in plastic trash bags to prevent re-infestation of remaining plants."

407	Causes allergies or is otherwise toxic to humans	n
	Source(s)	Notes
	Dave's Garden. 2016. Aloe 'Hercules' - Aloe barberae x dichotoma. <a href="http://davesgarden.com/guides/pf/go/168051/">http://davesgarden.com/guides/pf/go/168051/</a> . [Accessed 5 Oct 2016]	"Danger: N/A"
	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, but parent species have medicinal properties

408	Creates a fire hazard in natural ecosystems	n
	Source(s)	Notes
	WRA Specialist. 2016. Personal Communication	Hybrid species. Aloe taxa are generally adapted to resist or survive fire

409	Is a shade tolerant plant at some stage of its life cycle	n
	Source(s)	Notes
	San Marcos Growers. 2016. Aloe 'Hercules' - Hercules Aloe. <a href="http://www.smgrowers.com/products/plants/plantdisplay.asp?plant_id=3330#">http://www.smgrowers.com/products/plants/plantdisplay.asp?plant_id=3330#</a> . [Accessed 5 Oct 2016]	"Exposure: Full Sun"

Qsn #	Question	Answer
	Dave's Garden. 2016. Aloe 'Hercules' - Aloe barberae x dichotoma. <a href="http://davesgarden.com/guides/pf/go/168051/">http://davesgarden.com/guides/pf/go/168051/</a> . [Accessed 5 Oct 2016]	"Sun Exposure: Full Sun"

410	Tolerates a wide range of soil conditions (or limestone conditions if not a volcanic island)	
	Source(s)	Notes
	The National Gardening Association. 2016. Aloe (Aloe 'Hercules') in the Aloes Database. <a href="http://garden.org/plants/view/707513/Aloe-Aloe-Hercules/">http://garden.org/plants/view/707513/Aloe-Aloe-Hercules/</a> . [Accessed 5 Oct 2016]	"Miscellaneous: Tolerates poor soil"

411	Climbing or smothering growth habit	n
	Source(s)	Notes
	San Marcos Growers. 2016. Aloe 'Hercules' - Hercules Aloe. <a href="http://www.smgrowers.com/products/plants/plantdisplay.asp?plant_id=3330#">http://www.smgrowers.com/products/plants/plantdisplay.asp?plant_id=3330#</a> . [Accessed 5 Oct 2016]	"The plant exhibits hybrid vigor, growing faster than Aloe barberae with a heavier trunk, thicker branches and peeling bark more typical of Aloe dichotoma but with broad triangular dark green leaves."

412	Forms dense thickets	n
	Source(s)	Notes
	WRA Specialist. 2016. Personal Communication	Hybrid. No evidence to date

501	Aquatic	n
	Source(s)	Notes
	San Marcos Growers. 2016. Aloe 'Hercules' - Hercules Aloe. <a href="http://www.smgrowers.com/products/plants/plantdisplay.asp?plant_id=3330#">http://www.smgrowers.com/products/plants/plantdisplay.asp?plant_id=3330#</a> . [Accessed 5 Oct 2016]	[Terrestrial] "Aloe 'Hercules' (Hercules Aloe) A large hybrid tree aloe that is the result of a cross between the large Tree Aloe, Aloe barberae (A. bainesii) and the smaller Quiver Tree, Aloe dichotoma. The plant exhibits hybrid vigor, growing faster than Aloe barberae with a heavier trunk, thicker branches and peeling bark more typical of Aloe dichotoma but with broad triangular dark green leaves. "

502	Grass	n
	Source(s)	Notes
	USDA, ARS, Germplasm Resources Information Network, 2016. National Plant Germplasm System [Online Database]. <a href="http://www.ars-grin.gov/npgs/index.html">http://www.ars-grin.gov/npgs/index.html</a> . [Accessed 5 Oct 2016]	Family: Xanthorrhoeaceae Subfamily: Asphodeloideae

503	Nitrogen fixing woody plant	n
	Source(s)	Notes



Qsn #	Question	Answer
	USDA, ARS, Germplasm Resources Information Network, 2016. National Plant Germplasm System [Online Database]. <a href="http://www.ars-grin.gov/npgs/index.html">http://www.ars-grin.gov/npgs/index.html</a> . [Accessed 5 Oct 2016]	Family: Xanthorrhoeaceae Subfamily: Asphodeloideae
504	<b>Geophyte (herbaceous with underground storage organs -- bulbs, corms, or tubers)</b>	n
	<b>Source(s)</b>	<b>Notes</b>
	The National Gardening Association. 2016. Aloe (Aloe 'Hercules') in the Aloes Database. <a href="http://garden.org/plants/view/707513/Aloe-Aloe-Hercules/">http://garden.org/plants/view/707513/Aloe-Aloe-Hercules/</a> . [Accessed 5 Oct 2016]	"Underground structures: Taproot"
601	<b>Evidence of substantial reproductive failure in native habitat</b>	n
	<b>Source(s)</b>	<b>Notes</b>
	WRA Specialist. 2016. Personal Communication	A hybrid with no natural distribution
602	<b>Produces viable seed</b>	
	<b>Source(s)</b>	<b>Notes</b>
	Plant Expo. 2007. Gardener Forum » Aloes and succulents » General » Topic: Aloe Hercules. <a href="http://www.gardenerforum.co.za/index.php?topic=739.0">http://www.gardenerforum.co.za/index.php?topic=739.0</a> . [Accessed 5 Oct 2016]	[Possible seed production, but identify of parents uncertain] "Aloe hercules (?) ... Emiel has tried to propagate the aloe with seeds but these were not viable but nowadays it seems that he has some youngsters (tissue culture). We had a few viable seeds and these germinated. But the seedlings look very much alike those of the seedlings of the <i>A. barberea</i> ( <i>bainesii</i> ?)."
603	<b>Hybridizes naturally</b>	
	<b>Source(s)</b>	<b>Notes</b>
	San Marcos Growers. 2016. Aloe 'Hercules' - Hercules Aloe. <a href="http://www.smgrowers.com/products/plants/plantdisplay.asp?plant_id=3330#">http://www.smgrowers.com/products/plants/plantdisplay.asp?plant_id=3330#</a> . [Accessed 5 Oct 2016]	[Unknown if natural hybrids occur] "Aloe 'Hercules' (Hercules Aloe) A large hybrid tree aloe that is the result of a cross between the large Tree Aloe, <i>Aloe barberae</i> ( <i>A. bainesii</i> ) and the smaller Quiver Tree, <i>Aloe dichotoma</i> ."
604	<b>Self-compatible or apomictic</b>	
	<b>Source(s)</b>	<b>Notes</b>
	Cousins, S. R., Witkowski, E. T. F., Pfab, M. F., Riddles, R. E., & Mycock, D. J. (2013). Reproductive ecology of <i>Aloe plicatilis</i> , a fynbos tree aloe endemic to the Cape Winelands, South Africa. <i>South African Journal of Botany</i> , 87, 52-65	"Aloes are generally self-incompatible and therefore reliant on animal floral visitors for pollination and seed set ( Hoffman, 1988 and Botes et al., 2009)."
605	<b>Requires specialist pollinators</b>	y

Qsn #	Question	Answer
	<b>Source(s)</b>	<b>Notes</b>
	The National Gardening Association. 2016. Aloe (Aloe 'Hercules') in the Aloes Database. <a href="http://garden.org/plants/view/707513/Aloe-Aloe-Hercules/">http://garden.org/plants/view/707513/Aloe-Aloe-Hercules/</a> . [Accessed 5 Oct 2016]	"Pollinators: Birds"
	Cousins, S. R., Witkowski, E. T. F., Pfab, M. F., Riddles, R. E., & Mycock, D. J. (2013). Reproductive ecology of Aloe plicatilis, a fynbos tree aloe endemic to the Cape Winelands, South Africa. South African Journal of Botany, 87, 52-65	[Parent species bird-pollinated] "By contrast, the Northern Cape quiver trees (Aloe dichotoma Masson, Aloe pillansii L. Guthrie and Aloe ramosissima Pillans) and Aloe barberae Dyer have short, cylindrical–ventricose flowers on densely-flowered racemes and are purportedly pollinated largely by opportunistic nectarivores (Van Jaarsveld, 2011),"

<b>606</b>	<b>Reproduction by vegetative fragmentation</b>	<b>y</b>
	<b>Source(s)</b>	<b>Notes</b>
	The National Gardening Association. 2016. Aloe (Aloe 'Hercules') in the Aloes Database. <a href="http://garden.org/plants/view/707513/Aloe-Aloe-Hercules/">http://garden.org/plants/view/707513/Aloe-Aloe-Hercules/</a> . [Accessed 5 Oct 2016]	"Propagation: Other methods: Cuttings: Stem Offsets Other: Stems cut below a node root easily. Cut a stem that has gotten leggy, let it dry out for at least a few hours to form a seal on the cut surface. Place the cutting in rooting medium kept moist, but not wet, until roots form."

<b>607</b>	<b>Minimum generative time (years)</b>	
	<b>Source(s)</b>	<b>Notes</b>
	Evergreen Nursery. 2016. Aloe 'Hercules'. <a href="http://www.evergreennursery.com/aloe-hercules">http://www.evergreennursery.com/aloe-hercules</a> . [Accessed 5 Oct 2016]	"Growth Rate: Moderate"

<b>701</b>	<b>Propagules likely to be dispersed unintentionally (plants growing in heavily trafficked areas)</b>	<b>n</b>
	<b>Source(s)</b>	<b>Notes</b>
	Klopper, R. R. & Smith, G. F. 2010. Aloe L. PlantZAfrica. SANBI. <a href="http://www.plantzafrica.com/plantab/aloe.htm">http://www.plantzafrica.com/plantab/aloe.htm</a> . [Accessed 5 Oct 2016]	[Generic description. No means of external attachment. Unclear if Aloe 'Hercules' produces seeds] "Aloe fruit are capsules that dry out and split open to release the mature small, brown to black, angled seeds that sometimes have a narrow or prominent translucent or white wing. The wing is thought to aid wind dispersal of the seeds."

<b>702</b>	<b>Propagules dispersed intentionally by people</b>	<b>y</b>
	<b>Source(s)</b>	<b>Notes</b>
	Dave's Garden. 2016. Aloe 'Hercules' - Aloe barberae x dichotoma. <a href="http://davesgarden.com/guides/pf/go/168051/">http://davesgarden.com/guides/pf/go/168051/</a> . [Accessed 5 Oct 2016]	Cultivated as an ornamental

Qsn #	Question	Answer
703	Propagules likely to disperse as a produce contaminant	n
	Source(s)	Notes
	WRA Specialist. 2016. Personal Communication	No evidence. Unclear if seeds are produced in cultivation

704	Propagules adapted to wind dispersal	
	Source(s)	Notes
	Klopper, R. R. & Smith, G. F. 2010. Aloe L. PlantZAfrica. SANBI. <a href="http://www.plantzafrica.com/plantab/aloe.htm">http://www.plantzafrica.com/plantab/aloe.htm</a> . [Accessed 5 Oct 2016]	[Generic description. Unclear if seeds are produced] "Aloe fruit are capsules that dry out and split open to release the mature small, brown to black, angled seeds that sometimes have a narrow or prominent translucent or white wing. The wing is thought to aid wind dispersal of the seeds."

705	Propagules water dispersed	n
	Source(s)	Notes
	Klopper, R. R. & Smith, G. F. 2010. Aloe L. PlantZAfrica. SANBI. <a href="http://www.plantzafrica.com/plantab/aloe.htm">http://www.plantzafrica.com/plantab/aloe.htm</a> . [Accessed 5 Oct 2016]	[Wind-dispersed. Seeds may not be dispersed in Aloe 'Hercules'] "Aloe fruit are capsules that dry out and split open to release the mature small, brown to black, angled seeds that sometimes have a narrow or prominent translucent or white wing. The wing is thought to aid wind dispersal of the seeds. "

706	Propagules bird dispersed	n
	Source(s)	Notes
	Klopper, R. R. & Smith, G. F. 2010. Aloe L. PlantZAfrica. SANBI. <a href="http://www.plantzafrica.com/plantab/aloe.htm">http://www.plantzafrica.com/plantab/aloe.htm</a> . [Accessed 5 Oct 2016]	[Generic description. Wind-dispersed. Seeds may not be dispersed in Aloe 'Hercules'] "Aloe fruit are capsules that dry out and split open to release the mature small, brown to black, angled seeds that sometimes have a narrow or prominent translucent or white wing. The wing is thought to aid wind dispersal of the seeds."

707	Propagules dispersed by other animals (externally)	n
	Source(s)	Notes
	Klopper, R. R. & Smith, G. F. 2010. Aloe L. PlantZAfrica. SANBI. <a href="http://www.plantzafrica.com/plantab/aloe.htm">http://www.plantzafrica.com/plantab/aloe.htm</a> . [Accessed 5 Oct 2016]	[Generic description. Wind-dispersed. Seeds may not be dispersed in Aloe 'Hercules'] "Aloe fruit are capsules that dry out and split open to release the mature small, brown to black, angled seeds that sometimes have a narrow or prominent translucent or white wing. The wing is thought to aid wind dispersal of the seeds."

708	Propagules survive passage through the gut	n
	Source(s)	Notes
	Klopper, R. R. & Smith, G. F. 2010. Aloe L. PlantZAfrica. SANBI. <a href="http://www.plantzafrica.com/plantab/aloe.htm">http://www.plantzafrica.com/plantab/aloe.htm</a> . [Accessed 5 Oct 2016]	[Generic description. Wind-dispersed. Seeds may not be dispersed in Aloe 'Hercules'] "Aloe fruit are capsules that dry out and split open to release the mature small, brown to black, angled seeds that sometimes have a narrow or prominent translucent or white wing. The wing is thought to aid wind dispersal of the seeds."

Qsn #	Question	Answer
801	Prolific seed production (>1000/m <sup>2</sup> )	n
	Source(s)	Notes
	WRA Specialist. 2016. Personal Communication	Unclear if hybrid produces seeds. Unlikely to produce such high seed densities given lack of description of seed production in horticultural websites

802	Evidence that a persistent propagule bank is formed (>1 yr)	
	Source(s)	Notes
	Royal Botanic Gardens Kew. (2016) Seed Information Database (SID). Version 7.1. <a href="http://data.kew.org/sid/">http://data.kew.org/sid/</a> . [Accessed 5 Oct 2016]	[Unknown. Related taxa has orthodox seeds] "Aloe dichotoma ... Storage Behaviour: Orthodox"

803	Well controlled by herbicides	
	Source(s)	Notes
	WRA Specialist. 2016. Personal Communication	Unknown. No information on herbicide efficacy or chemical control of this species

804	Tolerates, or benefits from, mutilation, cultivation, or fire	
	Source(s)	Notes
	WRA Specialist. 2016. Personal Communication	Unknown. Some Aloe species are fire resistant and able to resprout after fires

805	Effective natural enemies present locally (e.g. introduced biocontrol agents)	
	Source(s)	Notes
	WRA Specialist. 2016. Personal Communication	Unknown

**Summary of Risk Traits:**

## High Risk / Undesirable Traits

- Able to grow in tropical climates
- Other Aloe species have become invasive
- May be able to reproduce vegetatively
- Seeds, if produced, may be wind-dispersed
- Limited ecological information reduces accuracy of risk prediction

## Low Risk Traits

- No reports of invasiveness or naturalization
- Unarmed (no spines, thorns or burrs)
- Ornamental
- A hybrid that may not produce seeds (unclear)
- Requires birds for pollination
- Limited or absence seed production reduces risk of dispersal