Taxon: Dendrobium anosmum **Family:** Orchidaceae

Common Name(s): hono hono orchid **Synonym(s):** Dendrobium leucorhodum Schltr.

Assessor: Chuck Chimera **Status:** Assessor Approved **End Date:** 25 Mar 2015

WRA Score: 1.0 **Designation:** L **Rating:** Low Risk

Keywords: Epiphytic, Orchid, Fragrant, Ornamental, Pseudobulbs

Qsn #	Question	Answer Option	Answer
101	Is the species highly domesticated?	y=-3, n=0	n
102	Has the species become naturalized where grown?		
103	Does the species have weedy races?		
201	Species suited to tropical or subtropical climate(s) - If island is primarily wet habitat, then substitute "wet tropical" for "tropical or subtropical"	(0-low; 1-intermediate; 2-high) (See Appendix 2)	High
202	Quality of climate match data	(0-low; 1-intermediate; 2-high) (See Appendix 2)	High
203	Broad climate suitability (environmental versatility)	y=1, n=0	y
204	Native or naturalized in regions with tropical or subtropical climates	y=1, n=0	y
205	Does the species have a history of repeated introductions outside its natural range?	y=-2, ?=-1, n=0	y
301	Naturalized beyond native range	y = 1*multiplier (see Appendix 2), n= question 205	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)	n
401	Produces spines, thorns or burrs	y=1, n=0	n
402	Allelopathic		
403	Parasitic	y=1, n=0	n
404	Unpalatable to grazing animals		
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
410	Tolerates a wide range of soil conditions (or limestone conditions if not a volcanic island)		

Qsn #	Question	Answer Option	Answer
411	Climbing or smothering growth habit	y=1, n=0	y
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	y=1, n=-1	y
603	Hybridizes naturally		
604	Self-compatible or apomictic	y=1, n=-1	n
605	Requires specialist pollinators		
606	Reproduction by vegetative fragmentation		
607	Minimum generative time (years)		
701	Propagules likely to be dispersed unintentionally (plants growing in heavily trafficked areas)		
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		
706	Propagules bird dispersed	y=1, n=-1	n
707	Propagules dispersed by other animals (externally)		
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)		
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**
	Staples, G.W. & Herbst, D.R. 2005. A Tropical Garden Flora - Plants Cultivated in the Hawaiian Islands and Other Tropical Places. Bishop Museum Press, Honolulu, HI	No evidence

102	**Has the species become naturalized where grown?**	
	Source(s)	**Notes**
	WRA Specialist. 2015. Personal Communication	NA

103	**Does the species have weedy races?**	
	Source(s)	**Notes**
	WRA Specialist. 2015. 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**
	Seidenfaden, G., Wood, J.J.& Holttum, R.E. 1992. The orchids of peninsular Malaysia and Singapore. Olsen & Olsen, Fredensborg, Denmark	"Distributed in Indochina and Thailand, and from Sumatra to the Philippines and New Guinea; found several times in Malaya, chiefly in the north, as an epiphyte in limestone country, but it is not common or widespread."

202	**Quality of climate match data**	**High**
	Source(s)	**Notes**
	Seidenfaden, G., Wood, J.J.& Holttum, R.E. 1992. The orchids of peninsular Malaysia and Singapore. Olsen & Olsen, Fredensborg, Denmark	

Qsn #	Question	Answer
203	**Broad climate suitability (environmental versatility)**	**y**
	Source(s)	**Notes**
	Mitamura, S. 2015. Cultural Requirements of Hono Hono Orchids. Akatsuka Orchid Gardens. http://www.akatsukaorchid.com/store/pg/39-Hono-Hono-Orchid Care.aspx. [Accessed 25 Mar 2015]	[Elevation range exceeds 1000 m (3300 ft), demonstrating environmental versatility] "The Hono Hono grow in a broad range of temperatures. In Southeast Asia, they grow from sea level to almost 5,000 ft. in elevation. Hono Honos are very herbaceous (soft stems and leaves vs. woody hard stems like cymbidiums), so their comfortable temperature range will be from the lower 60's to the low 90's. I know they can tolerate temperatures into the low 50's and possibly upper 40's for a short period of time. During their growing season, ideal temperatures would be 70's to 80's. Hono Hono's benefit from a drop in temperatures (upper 50's to 60's) between December and January (dormant season)."

204	**Native or naturalized in regions with tropical or subtropical climates**	**y**
	Source(s)	**Notes**
	Seidenfaden, G., Wood, J.J.& Holttum, R.E. 1992. The orchids of peninsular Malaysia and Singapore. Olsen & Olsen, Fredensborg, Denmark	"Distributed in Indochina and Thailand, and from Sumatra to the Philippines and New Guinea; found several times in Malaya, chiefly in the north, as an epiphyte in limestone country, but it is not common or widespread."

205	**Does the species have a history of repeated introductions outside its natural range?**	**y**
	Source(s)	**Notes**
	Neal, M.C. 1965. In Gardens of Hawaii. Bishop Museum Press, Honolulu, HI	"The commonest species in Hawaii is from the Philippines, and is called the honohono orchid (D. superbum Reichb. f., Fig. 118, c) ..."
	Randall, R.P. 2007. The introduced flora of Australia and its weed status. CRC for Australian Weed Management, Glen Osmond, Australia	Cultivated in Australia (but not listed as naturalized or invasive)

301	**Naturalized beyond native range**	**n**
	Source(s)	**Notes**
	Ackerman, J. 2012. Orchids gone wild. Orchids, 81(2): 88-93	[No evidence of Dendrobium anosmum] "Naturalized Orchids of Hawaii" [Includes Dendrobium crumenatum, Dendrobium antennatum, Dendrobium cf. mirbelianum, Dendrobium nobile type, Dendrobium antelope type, Dendrobium bigibbum type]
	Randall, R.P. 2012. A Global Compendium of Weeds. 2nd Edition. Department of Agriculture and Food, Western Australia	No evidence
	Wagner, W.L., Herbst, D.R.& Lorence, D.H. 2015. Flora of the Hawaiian Islands. Smithsonian Institution, Washington, D.C. http://botany.si.edu/pacificislandbiodiversity/hawaiianflora/index.htm. [Accessed 24 Mar 2015]	No evidence

302	**Garden/amenity/disturbance weed**	**n**

Qsn #	Question	Answer
	Source(s)	**Notes**
	Randall, R.P. 2007. The introduced flora of Australia and its weed status. CRC for Australian Weed Management, Glen Osmond, Australia	No evidence
	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. 2007. The introduced flora of Australia and its weed status. CRC for Australian Weed Management, Glen Osmond, Australia	No evidence
	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. 2007. The introduced flora of Australia and its weed status. CRC for Australian Weed Management, Glen Osmond, Australia	No evidence
	Randall, R.P. 2012. A Global Compendium of Weeds. 2nd Edition. Department of Agriculture and Food, Western Australia	No evidence

305	Congeneric weed	n
	Source(s)	**Notes**
	Ackerman, J. 2012. Orchids gone wild. Orchids, 81(2): 88-93	[Dendrobium atennatum described as "weedy". Impacts unspecified] "Except for localized vegetative reproduction, propagule pressure is directly related to pollination success." ... "...one recently reported escape, Dendrobium atennatum, is known to self-pollinate and become weedy."
	Randall, R.P. 2012. A Global Compendium of Weeds. 2nd Edition. Department of Agriculture and Food, Western Australia	No species listed as weeds. Several species naturalized, including the following: Dendrobium adamsii, Dendrobium carolinense, Dendrobium crumenatum, Dendrobium delicatulum, Dendrobium kingianum, Dendrobium ponapense, Dendrobium pseudo-kraemeri, Dendrobium scopa, Dendrobium spp., Dendrobium violaceo-miniatum

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

Qsn #	Question	Answer
	Seidenfaden, G., Wood, J.J.& Holttum, R.E. 1992. The orchids of peninsular Malaysia and Singapore. Olsen & Olsen, Fredensborg, Denmark	[No evidence] "Stems 10 120 cm or more long. Flowers 6-10 cm across. entirely mauve-purple, the lip with two deep purple patches in the middle, the basal pan purple-veined. Sepals narrow, petals broader, both up 10 6 cm long. Lip projecting forwards with a more or less acute tip, very hairy within, with a fleshy thickening near the base."

402	Allelopathic	
	Source(s)	**Notes**
	WRA Specialist. 2015. Personal Communication	Unknown

403	Parasitic	n
	Source(s)	**Notes**
	Seidenfaden, G., Wood, J.J.& Holttum, R.E. 1992. The orchids of peninsular Malaysia and Singapore. Olsen & Olsen, Fredensborg, Denmark	Orchidaceae [No evidence]

404	Unpalatable to grazing animals	
	Source(s)	**Notes**
	WRA Specialist. 2015. Personal Communication	Unknown. As an epiphyte, unlikely to be browsed by animals

405	Toxic to animals	n
	Source(s)	**Notes**
	Wagstaff, D.J. 2008. International poisonous plants checklist: an evidence-based reference. CRC Press, Boca Raton, FL	No evidence

406	Host for recognized pests and pathogens	
	Source(s)	**Notes**
	Hu, J. S., Ferreira, S., Wang, M., & Xu, M. Q. (1993). Detection of cymbidium mosaic virus, odontoglossum ringspot virus, tomato spotted wilt virus, and potyviruses infecting orchids in Hawaii. Plant Disease 77(5): 464-468	[Does not infect other Dendrobium species] "Dendrobium mosaic potyvirus was detected in Dendrobium superbum." ... "Honohono Dendrobium orchids were found to be infected by a potyvirus in this survey. Our results suggest that the mosaic and distortion symptoms on honohono orchids are caused by the potyvirus. The potyvirus was found only in honohono Dendrobium orchids, and not in any others surveyed."

407	Causes allergies or is otherwise toxic to humans	n
	Source(s)	**Notes**
	Global Species. 2015. Dendrobium anosmum (Unscented Dendrobium). http://www.globalspecies.org/ntaxa/1276711. [Accessed 25 Mar 2015]	Allergen Potential : Low

Qsn #	Question	Answer
	Wagstaff, D.J. 2008. International poisonous plants checklist: an evidence-based reference. CRC Press, Boca Raton, FL	No evidence

408	Creates a fire hazard in natural ecosystems	n
	Source(s)	**Notes**
	WRA Specialist. 2015. Personal Communication	No evidence. An epiphytic orchid that would likely burn, but not contribute significantly to the fuel load or fire risk of a region

409	Is a shade tolerant plant at some stage of its life cycle	n
	Source(s)	**Notes**
	Ricardo's Blog, Orchids, Parrots, Fish and People. 2008. Dendrobium culture: anosmum and its relatives. http://ricardogupi.blogspot.com/2008/10/dendrobium-anosmum-when-cultured-so.html. [Accessed 25 Mar 2015]	"Light: These plants love high light and benefit from some hours of full sun, some can even stand full midday sun without complaint, however exposing the base of the canes to full sun is deathly for these plants. The base of the canes will die if sunburned, and eventually the plant will die too. It is a perplexing and surprising experience when your plant suddenly becomes a group of live canes held together by a dead base."

410	Tolerates a wide range of soil conditions (or limestone conditions if not a volcanic island)	
	Source(s)	**Notes**
	Ricardo's Blog, Orchids, Parrots, Fish and People. 2008. Dendrobium culture: anosmum and its relatives. http://ricardogupi.blogspot.com/2008/10/dendrobium-anosmum-when-cultured-so.html. [Accessed 25 Mar 2015]	[Well-drained media, but as an epiphyte, unknown if able to tolerate or root in soil] "Media: These plants seem to be able to grow on anything as long as it allows for oxygenation of the roots. Every year I hose off the decayed material and add fresh one. I have used sphagnum moss, bark of all sizes, glass marbles, wood chips, tree fern, charcoal, etc. As long as the plant gets watered and fertilized appropriately for the material it seems to make no difference"

411	Climbing or smothering growth habit	y
	Source(s)	**Notes**
	Brown, W.H. 1921. Minor Products of Philippine Forests. Volume III. Bulletin No. 22. Department of Agriculture and Natural Resources Bureau of Forestry, Manila, Philippines	"Dendrobium anosmum is an epiphytic orchid with bulbous stems. The leaves are about 10 centimeters long and 3 centimeters wide. The stems make a yearly growth, after which the leaves drop off and the flowers appear. These are fragrant, about 8 centimeters across, and light purple with a darker purple center. After the flowers fade, the stems bearing them dry, and new ones are produced from the base of the plant."
	Staples, G.W. & Herbst, D.R. 2005. A Tropical Garden Flora - Plants Cultivated in the Hawaiian Islands and Other Tropical Places. Bishop Museum Press, Honolulu, HI	[Epiphytic climber] "Native from Southeast Asia to the Philippines and south to New Guinea, this epiphytic species is commonly called by the synonymous name D. superbum in the horticultural literature."

412	Forms dense thickets	n

Qsn #	Question	Answer
	Source(s)	**Notes**
	Brown, W.H. 1921. Minor Products of Philippine Forests. Volume III. Bulletin No. 22. Department of Agriculture and Natural Resources Bureau of Forestry, Manila, Philippines	[No evidence] "Dendrobium anosmum is an epiphytic orchid with bulbous stems."
	Teoh, Eng-Soon. 2005. Orchids of Asia. Marshall Cavendish, Singapore	No evidence

501	Aquatic	n
	Source(s)	**Notes**
	Teoh, Eng-Soon. 2005. Orchids of Asia. Marshall Cavendish, Singapore	[Terrestrial epiphyte] "A lowland orchid which requires a regular dry season..." ... "It thrives when tied to a living branch which allows unrestricted growth of its pendulous stems which grow to a length of 120 cm or more."

502	Grass	n
	Source(s)	**Notes**
	USDA, ARS, National Genetic Resources Program. 2015. Germplasm Resources Information Network - (GRIN) [Online Database]. National Germplasm Resources Laboratory, Beltsville, Maryland. URL: http://www.ars-grin.gov/. [Accessed 24 Mar 2015]	"Family: Orchidaceae subfamily: Epidendroideae tribe: Dendrobieae"

503	Nitrogen fixing woody plant	n
	Source(s)	**Notes**
	USDA, ARS, National Genetic Resources Program. 2015. Germplasm Resources Information Network - (GRIN) [Online Database]. National Germplasm Resources Laboratory, Beltsville, Maryland. URL: http://www.ars-grin.gov/. [Accessed 24 Mar 2015]	"Family: Orchidaceae subfamily: Epidendroideae tribe: Dendrobieae"

504	Geophyte (herbaceous with underground storage organs -- bulbs, corms, or tubers)	n
	Source(s)	**Notes**
	Staples, G.W. & Herbst, D.R. 2005. A Tropical Garden Flora - Plants Cultivated in the Hawaiian Islands and Other Tropical Places. Bishop Museum Press, Honolulu, HI	"epiphytic species" ... "Honohono has pendent, canelike pseudobulbs to 4' long with deciduous leaves distributed along their length."

601	Evidence of substantial reproductive failure in native habitat	n
	Source(s)	**Notes**
	Seidenfaden, G., Wood, J.J.& Holttum, R.E. 1992. The orchids of peninsular Malaysia and Singapore. Olsen & Olsen, Fredensborg, Denmark	[No evidence] "Distributed in Indochina and Thailand, and from Sumatra to the Philippines and New Guinea; found several times in Malaya, chiefly in the north, as an epiphyte in limestone country, but it is not common or widespread."

Qsn #	Question	Answer
602	**Produces viable seed**	**y**
	Source(s)	**Notes**
	Huehne, P. S., & Bhinija, K. (2012). Application of cryoprotectants to improve low temperature storage survival of orchid seeds. Scientia Horticulturae, 135: 186-193	"However, there is a large amount of variation in seed longevity among orchid species during storage. For example, the survival rates of Dactylorhiza fuchsii, Dendrobium anosmum and Eulophia gonychila varied when seeds from these orchids were preserved under ultra-dry and low temperatures of −30 ◦C and −50 ◦C (Pritchard et al., 1999)."
	OrchidGeeks.com. 2007. Orchid Forum Orchid Care > Orchid Care > Orchid Flasking and Seed Germination - seed pod Dendrobium Anosmum Superbum. http://www.orchidgeeks.com/forum/orchid-flasking-and-seed-germination-7/seed-pod-dendrobium-anosmum-superbum-466/. [Accessed 25 Mar 2015]	"I would start looking at it seriously at about 155 days, look for the swelling to stop, the pod to start turning yellow, brown, and you can gently squeeze the pod, it will give alittle when it's ready--I would wait till it ready to burst and save the seeds, when you trade seed around the world you never deal with green seeds--I have germinated seed 4 years old--open up your hobby you can keep seeds in your refrigerator for years that will increase your hobby"
	Exotic Plants. 2015. Dendrobium anosmum - orchids seeds. http://www.exotic-plants.de/seeds/orchids/Dendrobium-anosmum.php. [Accessed 25 Mar 2015]	[Seeds available commercially. Unclear how often plants produce seeds in introduced range outside of cultivation] "Dendrobium anosmum is an orchid native to Thailand with clusters of purple flowers with white markings. You will receive 1 pack of seeds. Orchid seeds are very small almost like dust and therefore not really countable. The amount of seeds will be between 50 - 100+"

603	**Hybridizes naturally**	
	Source(s)	**Notes**
	Pridgeon, A. (ed.). 1992. The Illustrated Encyclopedia of Orchids. Timber Press, Portland, OR	[General description] "In the wild, orchid species rarely form natural hybrids in zones of overlap. The integrity of species is maintained by differences in flowering times, floral morphology, visual and olfactory cues, as well as by genetic incompatibility or inability of the hybrid to establish and reproduce. Once one or more of these barriers or isolating mechanisms are removed, though, for example when orchids are pollinated by hand in the greenhouse, two different species will often produce viable hybrids quite readily."
	Fadelah, A. A. 2003. Developing fragrant orchids: cross compatibility of selected parents. Developing fragrant orchids: cross compatibility of selected parents. Pp 72-74 in Proceedings of the fifth National Genetics Congress; 25-27 March 2003; Kuala Lumpur	[Unknown. Artificial hybrids possible] "The main objective of the research is to value-add the miniature Dendrobium Doctor Sharil as a potted orchid hybrid with fragrance. To achieve this, selected fragrant Dendrobium orchid species were identified from MARDI's wild orchid germplasm collection. The selected fragrant Dendrobium orchid species were Dendrobium anosmum, Dendrobium crumenotum, Dendrobium leonis and Dendrobium farmeri. These selected parents were then hybridized with Dendrobium Doctor Sharif. Results showed that Dendrobium orchid species used as female parents were not as successful compared to them being used as male parents or pollen donors. Successful results obtained from hybridizations between Dendrobium anosmum and Dendrobium crumenatum were also discussed."

604	**Self-compatible or apomictic**	**n**
	Source(s)	**Notes**

Qsn #	Question	Answer
	Johansen, B. O. (1990). Incompatibility in Dendrobium (Orchidaceae). Botanical Journal of the Linnean Society, 103(2), 165-196	" A unique self-incompatibility system in Dendrobium is demonstrated by more than 1700 pollination experiments. The majority (72%) of the 61 species that were self-pollinated showed self-sterility. In contrast with many other orchid genera Dendrobium showed high incompatibility in interspecific pollinations. Self-and interspecific incompatibility is expressed by flower abscission and not by inhibition of pollen germination or pollen tube growth. The incompatibility system is gametophytic and complementary, and it is likely that the auxin content in the pollinia triggers the incompatibility reaction. Microscopical investigations on the detached cells of the stigma (here called eleutherocytes) after compatible and incompatible pollinations, suggest that the incompatibility response is probably controlled by these cells."

605	Requires specialist pollinators	
	Source(s)	**Notes**
	Wilson, K. & Morrison, D. (eds.). 2000. Monocots: Systematics and Evolution. CSIRO Publishing, Collingwood, Australia	"Dendrobium anosmum (as D. superbum, section Dendrobium) and D. crumenatum (section Crumenata), are both reported to be pollinated by Asiatic honeybees Apis dorsata and A. indica (van der Pijl and Dodson, 1966) ..."
	Van Der Cingel, N.A. 2001. An atlas of orchid pollination: America, Africa, Asia and Australia. A.A. Balkema, Rotterdam, Netherlands	"Dendrobium superbum: Visited by Apis dorsata and Apis indica (Burkill 1919). Cultivated specimens in Japan are visited by male melon flies, Dacus cucurbitae, which lick the flowers and sequester an attractant 4-(4-hydro-xyphenyl)-2-butanone (or raspberry ketone) in their rectal glands, where it is retained for up to six days. The male produces a smokelike substance from the gland during courtship, but its role is not clear. Flies seldom visit inside the lip and are unlikely to be pollinators, (Nishida et al. 1993)."

606	Reproduction by vegetative fragmentation	
	Source(s)	**Notes**
	Wang, Y.-T. 1999. Dendrobium anosmum - Every One Should Have One. Reprinted from the October 1999 issue of Orchids -- The magazine of the American Orchid Society. http://www.sdorchids.com/articles/den_anos_article.htm. [Accessed 25 Mar 2015]	[May be propagated from pseudobulbs, but unknown if the plant can naturally spread in the wild this way] "After flowering is over, the unbloomed nodes near the tip of the pseudobulbs and a few nodes just below the lowest flowers will start to produce keikis. A keiki may be removed from its parent plant when a good root system has developed in a couple of months."

607	Minimum generative time (years)	
	Source(s)	**Notes**
	WRA Specialist. 2015. Personal Communication	Unknown

Qsn #	Question	Answer
701	**Propagules likely to be dispersed unintentionally (plants growing in heavily trafficked areas)**	
	Source(s)	**Notes**
	National Tropical Botanical Garden. 2015. Dendrobium anosmum (Orchidaceae). http://ntbg.org/plants/plant_details.php?plantid=11926. [Accessed 25 Mar 2015]	[Small seeds, if produced, may be dispersed in mud attached to vehicles, machinery or footwear] "Honohono fruit are dry at maturity and split open along 3 slits down the length of the dry capsule to release hundreds of small seeds"

702	**Propagules dispersed intentionally by people**	**y**
	Source(s)	**Notes**
	Kamemoto, H., Amore, T.D. & Kuehnle, A.R. 1999. Breeding Dendrobium Orchids in Hawaii. University of Hawaii Press, Honolulu, HI	"Dendrobium anosmum was introduced into Hawaii in 1896 from the Philippines as D. superbum (Beaumont 1951) and has been a popular garden plant, often attached to trees or grown in hanging baskets."

703	**Propagules likely to disperse as a produce contaminant**	
	Source(s)	**Notes**
	National Tropical Botanical Garden. 2015. Dendrobium anosmum (Orchidaceae). http://ntbg.org/plants/plant_details.php?plantid=11926. [Accessed 25 Mar 2015]	[Small seeds, if produced, could possibly become a contaminant of potting media or potted plants in the vicinity]] "Honohono fruit are dry at maturity and split open along 3 slits down the length of the dry capsule to release hundreds of small seeds"

704	**Propagules adapted to wind dispersal**	**y**
	Source(s)	**Notes**
	Exotic Plants. 2015. Dendrobium anosmum - orchids seeds. http://www.exotic-plants.de/seeds/orchids/Dendrobium-anosmum.php. [Accessed 25 Mar 2015]	[Seeds, when produced, would be wind-dispersed] "Orchid seeds are very small almost like dust and therefore not really countable."

705	**Propagules water dispersed**	
	Source(s)	**Notes**
	National Tropical Botanical Garden. 2015. Dendrobium anosmum (Orchidaceae). http://ntbg.org/plants/plant_details.php?plantid=11926. [Accessed 25 Mar 2015]	[Unknown. Small seeds, if produced, likely wind-dispersed, but water may provide secondary dispersal] "Honohono fruit are dry at maturity and split open along 3 slits down the length of the dry capsule to release hundreds of small seeds"

706	**Propagules bird dispersed**	**n**
	Source(s)	**Notes**
	National Tropical Botanical Garden. 2015. Dendrobium anosmum (Orchidaceae). http://ntbg.org/plants/plant_details.php?plantid=11926. [Accessed 25 Mar 2015]	[Not fleshy-fruited] "Honohono fruit are dry at maturity and split open along 3 slits down the length of the dry capsule to release hundreds of small seeds"

707	**Propagules dispersed by other animals (externally)**	

Qsn #	Question	Answer
	Source(s)	**Notes**
	National Tropical Botanical Garden. 2015. Dendrobium anosmum (Orchidaceae). http://ntbg.org/plants/plant_details.php?plantid=11926. [Accessed 25 Mar 2015]	[Unknown. Small seeds, if produced, may be able to adhere to animal fur or mud stuck to hooves or feet] "Honohono fruit are dry at maturity and split open along 3 slits down the length of the dry capsule to release hundreds of small seeds"

708	Propagules survive passage through the gut	n
	Source(s)	**Notes**
	Gordon, D. R., Mitterdorfer, B., Pheloung, P. C., Ansari, S., Buddenhagen, C., Chimera, C., ... & Williams, P. A. 2010). Guidance for addressing the Australian Weed Risk Assessment questions. Plant Protection Quarterly, 25(2): 56-74	"Answer 'no' where the taxon is unlikely to be eaten by animals or if seeds are not viable following passage through the gut."

801	Prolific seed production (>1000/m2)	
	Source(s)	**Notes**
	National Tropical Botanical Garden. 2015. Dendrobium anosmum (Orchidaceae). http://ntbg.org/plants/plant_details.php?plantid=11926. [Accessed 25 Mar 2015]	[Possibly Yes] "Honohono fruit are dry at maturity and split open along 3 slits down the length of the dry capsule to release hundreds of small seeds"

802	Evidence that a persistent propagule bank is formed (>1 yr)	
	Source(s)	**Notes**
	Royal Botanic Gardens Kew. 2008. Seed Information Database (SID). Version 7.1. http://data.kew.org/sid/. [Accessed 25 Mar 2015]	[Unknown from field conditions] "Storage Behaviour: Orthodox Storage Conditions: Seeds survive desiccation to mc's in equilibrium with 11 % r.h. (3-5 % mc), as well as freezing for 12 months at 32 % r.h. and sub-zero temperatures down to -20°C (Pritchard et al., 1999)."

803	Well controlled by herbicides	
	Source(s)	**Notes**
	WRA Specialist. 2015. Personal Communication	Unknown. No information on herbicide efficacy or chemical control of this species, which is regarded as a desirable ornamental

804	Tolerates, or benefits from, mutilation, cultivation, or fire	
	Source(s)	**Notes**
	WRA Specialist. 2015. Personal Communication	Unknown

805	Effective natural enemies present locally (e.g. introduced biocontrol agents)	
	Source(s)	**Notes**

Qsn #	Question	Answer
	Hu, J. S., Ferreira, S., Wang, M., & Xu, M. Q. (1993). Detection of cymbidium mosaic virus, odontoglossum ringspot virus, tomato spotted wilt virus, and potyviruses infecting orchids in Hawaii. Plant Disease 77(5): 464-468	[Unknown] "Dendrobium mosaic potyvirus was detected in Dendrobium superbum." ... "Honohono Dendrobium orchids were found to be infected by a potyvirus in this survey. Our results suggest that the mosaic and distortion symptoms on honohono orchids are caused by the potyvirus. The potyvirus was found only in honohono Dendrobium orchids, and not in any others surveyed."

Summary of Risk Traits:

High Risk / Undesirable Traits
• Elevation range exceeds 1000 m, demonstrating environmental versatility
• Thrives in tropical climates
• Tolerates many substrate types
• Seeds, if produced, dispersed by wind and people
• Limited ecological information makes accurate risk prediction difficult

Low Risk Traits
• No reports of invasiveness or naturalization
• Unarmed (no spines, thorns or burrs)
• Ornamental with fragrant flowers

Second Screening Results for Climbers

(A) Shade tolerant or known to form dense stands?> No = Accept
(B) Reported as a weed of cultivated lands? No = Accept
Outcome = Accept (Low Risk)