

Australia/New Zealand Weed Risk Assessment adapted for United States.

Data used for analysis published in: Gordon, D.R. and C.A. Gantz. 2008. Potential impacts on the horticultural industry of screening new plants for invasiveness. Conservation Letters 1: 227-235. Available at: <http://www3.interscience.wiley.com/cgi-bin/fulltext/121448369/PDFSTART>

<i>Dianthus imereticus</i>			
Question number	Question	Answer	Score
1.01	Is the species highly domesticated?	n	0
1.02	Has the species become naturalised where grown?		
1.03	Does the species have weedy races?		
2.01	Species suited to U.S. climates (USDA hardiness zones; 0-low, 1-intermediate, 2-high)	2	
2.02	Quality of climate match data (0-low; 1-intermediate; 2-high)	1	
2.03	Broad climate suitability (environmental versatility)	?	
2.04	Native or naturalized in regions with an average of 11-60 inches of annual precipitation	y	1
2.05	Does the species have a history of repeated introductions outside its natural range?	?	
3.01	Naturalized beyond native range	n	-1
3.02	Garden/amenity/disturbance weed	n	0
3.03	Weed of agriculture	n	0
3.04	Environmental weed	n	0
3.05	Congeneric weed	n	0
4.01	Produces spines, thorns or burrs	n	0
4.02	Allelopathic		
4.03	Parasitic	n	0
4.04	Unpalatable to grazing animals		
4.05	Toxic to animals	n	0
4.06	Host for recognised pests and pathogens		
4.07	Causes allergies or is otherwise toxic to humans	n	0
4.08	Creates a fire hazard in natural ecosystems		
4.09	Is a shade tolerant plant at some stage of its life cycle	n	0
4.1	Grows on one or more of the following soil types: alfisols, entisols, or mollisols	?	
4.11	Climbing or smothering growth habit	n	0
4.12	Forms dense thickets		

5.01	Aquatic	n	0
5.02	Grass	n	0
5.03	Nitrogen fixing woody plant	n	0
5.04	Geophyte		
6.01	Evidence of substantial reproductive failure in native habitat	n	0
6.02	Produces viable seed	y	1
6.03	Hybridizes naturally	?	
6.04	Self-compatible or apomictic		
6.05	Requires specialist pollinators		
6.06	Reproduction by vegetative fragmentation		
6.07	Minimum generative time (years)		
7.01	Propagules likely to be dispersed unintentionally (plants growing in heavily trafficked areas)		
7.02	Propagules dispersed intentionally by people	y	1
7.03	Propagules likely to disperse as a produce contaminant	n	-1
7.04	Propagules adapted to wind dispersal	n	-1
7.05	Propagules water dispersed		
7.06	Propagules bird dispersed		
7.07	Propagules dispersed by other animals (externally)	?	
7.08	Propagules dispersed by other animals (internally)		
8.01	Prolific seed production		
8.02	Evidence that a persistent propagule bank is formed (>1 yr)		
8.03	Well controlled by herbicides		
8.04	Tolerates, or benefits from, mutilation or cultivation		
8.05	Effective natural enemies present in U.S.		
Total Score			0

Outcome	Accept
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section	# questions answered	satisfy minimum?
A	9	Yes
B	6	Yes
C	8	Yes
total	23	yes

Data collected 2008

Question number	Reference	Source data
1.01		cultivated, but no evidence of significant modification
1.02		
1.03		
2.01	1. PERAL NAPPFAST Global Plant Hardiness (http://www.nappfast.org/Plant_hardiness/NAPPFAST%20Global%20zones/10-year%20climate/PLANT_HARDINESS_10YR%20Ign.d.tif). 2. Komarov, VL and BK Shishkin, eds (1936) Flora of the USSR. Volume VI, Centrospermae. Izdatel'stvo Akademii Nauk SSSR, Moskva-Leningrad. 3. Ornamental Plants from Russia (http://www.efloras.org/florataxon.aspx?flora_id=120&taxon_id=242442377).	1. Global hardiness zones 4-7(-8?). 2. Endemic to Caucasus: W. Transc. 3. Caucasus (western regions); "suffers from...frost during the winter".
2.02		
2.03	1. Köppen-Geiger climate map (http://www.hydrol-earth-syst-sci.net/11/1633/2007/hess-11-1633-2007.pdf). 2. Komarov, VL and BK Shishkin, eds (1936) Flora of the USSR. Volume VI, Centrospermae. Izdatel'stvo Akademii Nauk SSSR, Moskva-Leningrad. 3. Ornamental Plants from Russia (http://www.efloras.org/florataxon.aspx?flora_id=120&taxon_id=242442377).	1. Distribution range is not specific enough to determine; possibly three climatic regions. 2. Endemic to Caucasus: W. Transc. 3. Caucasus (western regions).
2.04	1. Atlapedia Online (http://www.atlapedia.com/online/countries/georgia.htm). 2. Ornamental Plants from Russia (http://www.efloras.org/florataxon.aspx?flora_id=120&taxon_id=242442377).	1. For Georgia: along the coast average annual precipitation varies from 1,200 to 2,800 mm (47 to 110 inches) to 600 to 800 mm (24 to 31.5 inches) in the mountainous regions. 2. "Suffers from excess water".
2.05	Ornamental Plants from Russia (http://www.efloras.org/florataxon.aspx?flora_id=120&taxon_id=242442377).	Used as an ornamental in Russia, but unknown whether it has been introduced outside native range.
3.01		no evidence
3.02		no evidence
3.03		no evidence
3.04		no evidence
3.05	Holm, L, JV Pancho, JP Herberger, and DL Plucknett	<i>D. armeria</i> considered a common

	(1979) A Geographical Atlas of World Weeds. John Wiley and Sons, New York.	weed of agriculture in Hawaii. [but not sufficient for a 'yes' response]
4.01	Komarov, VL and BK Shishkin, eds (1936) Flora of the USSR. Volume VI, Centrospermae. Izdatel'stvo Akademii Nauk SSSR, Moskva-Leningrad.	no description of these traits
4.02		
4.03	Komarov, VL and BK Shishkin, eds (1936) Flora of the USSR. Volume VI, Centrospermae. Izdatel'stvo Akademii Nauk SSSR, Moskva-Leningrad.	no description of this
4.04		
4.05		no evidence
4.06		
4.07		no evidence
4.08		
4.09	Ornamental Plants from Russia (http://www.efloras.org/florataxon.aspx?flora_id=120&taxon_id=242442377).	"requires a sunny place"
4.1	1. USDA, National Resources Conservation Services (NRCS), Soil Survey Division, World Soil Resources (http://soils.usda.gov/use/worldsoils/mapindex/order.html). 2. Komarov, VL and BK Shishkin, eds (1936) Flora of the USSR. Volume VI, Centrospermae. Izdatel'stvo Akademii Nauk SSSR, Moskva-Leningrad. 3. Ornamental Plants from Russia (http://www.efloras.org/florataxon.aspx?flora_id=120&taxon_id=242442377).	1. Mollisols and alfisols occur in the region of origin, but since it is not well-defined, there are potentially large regions of the "rocky land" soil order type which may accommodate the species. 2. Calcareous rocks. 3. Requires limestone soil.
4.11	Komarov, VL and BK Shishkin, eds (1936) Flora of the USSR. Volume VI, Centrospermae. Izdatel'stvo Akademii Nauk SSSR, Moskva-Leningrad.	Perennial herb, several to numerous stems, 30-60 cm long, occasionally somewhat woody at base.
4.12		
5.01		terrestrial
5.02	Ornamental Plants from Russia (http://www.efloras.org/florataxon.aspx?flora_id=120&taxon_id=242442377).	Caryophyllaceae
5.03	Ornamental Plants from Russia (http://www.efloras.org/florataxon.aspx?flora_id=120&taxon_id=242442377).	Caryophyllaceae
5.04		

6.01		no evidence
6.02	Ornamental Plants from Russia (http://www.efloras.org/florataxon.aspx?flora_id=120&taxon_id=242442377).	propagation easy by seed
6.03	Walters, SM, ed (1984) The European Garden Flora, vol. 3. Cambridge University Press, Cambridge.	"Hybridisation is frequent and surprisingly successful even between widely differing species, both in nature and...in cultivation". [but no specific information on <i>D. imereticus</i>]
6.04		
6.05		
6.06		
6.07		
7.01		
7.02	Ornamental Plants from Russia (http://www.efloras.org/florataxon.aspx?flora_id=120&taxon_id=242442377).	Used as an ornamental in Russia; "Well-suited for the rock garden and group planting."
7.03		no evidence
7.04	Walters, SM, ed (1984) The European Garden Flora, vol. 3. Cambridge University Press, Cambridge.	"Fruit a capsule opening apically with 4 teeth" [genus information]. [no evidence of adaptations to wind dispersal]
7.05		
7.06		
7.07	Walters, SM, ed (1984) The European Garden Flora, vol. 3. Cambridge University Press, Cambridge.	"Fruit a capsule opening apically with 4 teeth" [genus information]. [no evidence of adaptations to external dispersal]
7.08		
8.01		
8.02		
8.03		
8.04		
8.05		