

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>Aster oharai</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)	2	
2.03	Broad climate suitability (environmental versatility)	n	0
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		
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	n	0
6.01	Evidence of substantial reproductive failure in native habitat	n	0
6.02	Produces viable seed		
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	n	-1
7.03	Propagules likely to disperse as a produce contaminant	n	-1
7.04	Propagules adapted to wind dispersal	y	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.		
<b>Total Score</b>			<b>-1</b>

<b>Outcome</b>	<b>Accept</b>
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<b>section</b>	<b># questions answered</b>	<b>satisfy minimum?</b>
A	10	Yes
B	5	Yes
C	8	Yes
total	23	yes

Data collected 2008

Question number	Reference	Source data
1.01		used horticulturally, but no evidence of significant modification
1.02		
1.03		
2.01	1. PERAL NAPPFAST Global Plant Hardiness ( <a href="http://www.nappfast.org/Plant_hardiness/NAPPFAST%20Global%20zones/10-year%20climate/PLANT_HARDINESS_10YR%20Ign d.tif">http://www.nappfast.org/Plant_hardiness/NAPPFAST%20Global%20zones/10-year%20climate/PLANT_HARDINESS_10YR%20Ign d.tif</a> ). 2. Schischkin, BK (1999) Flora of the USSR. Volume XXV. Pp. 189-204. Smithsonian Institution Libraries, Washington, D.C.	1. Global hardiness zones 2-5. 2. "Far East: Ussuri. General distribution: Korea."
2.02		
2.03	1. Köppen-Geiger climate map ( <a href="http://www.hydrol-earth-syst-sci.net/11/1633/2007/hess-11-1633-2007.pdf">http://www.hydrol-earth-syst-sci.net/11/1633/2007/hess-11-1633-2007.pdf</a> ). 2. Schischkin, BK (1999) Flora of the USSR. Volume XXV. Pp. 189-204. Smithsonian Institution Libraries, Washington, D.C.	1. One climatic region. 2. "Far East: Ussuri. General distribution: Korea."
2.04	1. Atlapedia Online ( <a href="http://www.atlapedia.com/online/countries/korea_n.htm">http://www.atlapedia.com/online/countries/korea_n.htm</a> ). 2. Atlapedia Online ( <a href="http://www.atlapedia.com/online/countries/korea_s.htm">http://www.atlapedia.com/online/countries/korea_s.htm</a> ).	1. For North Korea: "The wettest months are from July to September when up to 85% of rainfall occurs while average annual precipitation varies from 560 mm (22 inches) to 1,520 mm (60 inches) depending on the region.". 2. For South Korea: "Average annual precipitation varies from 1,016 mm (40 inches) to 1,524 mm (60 inches) depending on each region."
2.05		no evidence
3.01		no evidence
3.02		no evidence
3.03		no evidence
3.04		no evidence
3.05	1. Holm, L, JV Pancho, JP Herberger, and DL Plucknett (1979) A Geographical Atlas of World Weeds. John Wiley and Sons, New York. 2. New Zealand Plant Conservation Network (2005) New Zealand Adventive Vascular Plant List.	1. One congener is a common weed in Japan; several others are present as weeds in the USA, Chile, China, and Japan. 2. There are 4 "fully naturalised" congeners and 1 congener with a "casual

		observation" in New Zealand. [not enough evidence to be considered weeds].
4.01	Schischkin, BK (1999) Flora of the USSR. Volume XXV. Pp. 189-204. Smithsonian Institution Libraries, Washington, D.C.	no description of these traits
4.02		
4.03	Schischkin, BK (1999) Flora of the USSR. Volume XXV. Pp. 189-204. Smithsonian Institution Libraries, Washington, D.C.	no description of parasitism
4.04		
4.05	Schischkin, BK (1999) Flora of the USSR. Volume XXV. Pp. 189-204. Smithsonian Institution Libraries, Washington, D.C.	no evidence
4.06		
4.07	Schischkin, BK (1999) Flora of the USSR. Volume XXV. Pp. 189-204. Smithsonian Institution Libraries, Washington, D.C.	no evidence
4.08		
4.09		
4.1	1. USDA, National Resources Conservation Services (NRCS), Soil Survey Division, World Soil Resources ( <a href="http://soils.usda.gov/use/worldsoils/mapindex/order.html">http://soils.usda.gov/use/worldsoils/mapindex/order.html</a> ). 2. Schischkin, BK (1999) Flora of the USSR. Volume XXV. Pp. 189-204. Smithsonian Institution Libraries, Washington, D.C.	1. Alfisols and entisols are in the region of origin, but the "Rocky Land" soil order is also prevalent. It is difficult to determine if there is a soil order match in the region of origin. 2. "Gravel-beds and rocks of the seacoast."
4.11	Schischkin, BK (1999) Flora of the USSR. Volume XXV. Pp. 189-204. Smithsonian Institution Libraries, Washington, D.C.	"Perennial. Semishrubs with somewhat branched, readily detachable, woody caudex bearing clusters of leaves at branch tips and usually few upcurved, leafy relatively thick (0.3-0.5 cm), low (20-40 cm) stems"
4.12	Schischkin, BK (1999) Flora of the USSR. Volume XXV. Pp. 189-204. Smithsonian Institution Libraries, Washington, D.C.	"Perennial. Semishrubs with somewhat branched, readily detachable, woody caudex bearing clusters of leaves at branch tips and usually few upcurved, leafy relatively thick (0.3-0.5 cm), low (20-40 cm) stems"
5.01		terrestrial

5.02	Schischkin, BK (1999) Flora of the USSR. Volume XXV. Pp. 189-204. Smithsonian Institution Libraries, Washington, D.C.	Asteraceae
5.03	Schischkin, BK (1999) Flora of the USSR. Volume XXV. Pp. 189-204. Smithsonian Institution Libraries, Washington, D.C.	Asteraceae
5.04	Schischkin, BK (1999) Flora of the USSR. Volume XXV. Pp. 189-204. Smithsonian Institution Libraries, Washington, D.C.	"Semishrubs".
6.01		no evidence
6.02		
6.03		
6.04		
6.05		
6.06		
6.07		
7.01		
7.02		no evidence
7.03		no evidence
7.04	Schischkin, BK (1999) Flora of the USSR. Volume XXV. Pp. 189-204. Smithsonian Institution Libraries, Washington, D.C.	"Pappus two-rowed, outer bristles very short, inner about 4 mm long; achenes lanceolate, somewhat densely pubescent with stiff, rather long, semi-appressed hairs, developing in all florets."
7.05		
7.06		
7.07	Schischkin, BK (1999) Flora of the USSR. Volume XXV. Pp. 189-204. Smithsonian Institution Libraries, Washington, D.C.	"Pappus two-rowed, outer bristles very short, inner about 4 mm long; achenes lanceolate, somewhat densely pubescent with stiff, rather long, semi-appressed hairs, developing in all florets."
7.08		
8.01		
8.02		
8.03		
8.04		
8.05		