

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>Lespedeza liukiensis</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)	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	y	2
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	y	1
4.11	Climbing or smothering growth habit	?	
4.12	Forms dense thickets		
5.01	Aquatic	n	0

5.02	Grass	n	0
5.03	Nitrogen fixing woody plant	y	1
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	y	1
7.03	Propagules likely to disperse as a produce contaminant	n	-1
7.04	Propagules adapted to wind dispersal		
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			5

Outcome	Evaluate
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section	# questions answered	satisfy minimum?
A	10	Yes
B	5	Yes
C	7	Yes
total	22	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 (http://www.nappfast.org/Plant_hardiness/NAPPFAST%20Global%20zones/10-year%20climate/PLANT_HARDINESS_10YR%20Igcd.tif). 2. Akiyama, S (1988) A revision of the genus <i>Lespedeza</i> section <i>Macrolespedeza</i> (<i>Leguminosae</i>). University of Tokyo Press, Tokyo. 3. Hatusima, S (1967) <i>Lespedeza</i> : Sects. <i>Macrolespedeza</i> and <i>Heterolespedeza</i> from Japan, Korea and Formosa. <i>Memoirs of the Faculty of Agriculture, Kagoshima University</i> 6:12.	1. Global hardiness zone 8. 2. "Widely cultivated as an ornamental plant". 3. "Usually cultivated as an ornamental plant in Okinawa, Okierabu, Tokunoshima and Amami-oshima in the Ryukyu Islands, but it often escapes from cultivation in such places as Ohmi-gawa, Nakijin-mura and Yagachi in Okinawa"
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. Akiyama, S (1988) A revision of the genus <i>Lespedeza</i> section <i>Macrolespedeza</i> (<i>Leguminosae</i>). University of Tokyo Press, Tokyo. 3. Hatusima, S (1967) <i>Lespedeza</i> : Sects. <i>Macrolespedeza</i> and <i>Heterolespedeza</i> from Japan, Korea and Formosa. <i>Memoirs of the Faculty of Agriculture, Kagoshima University</i> 6:12.	1. One to two climatic regions. 2. "Widely cultivated as an ornamental plant". 3. "Usually cultivated as an ornamental plant in Okinawa, Okierabu, Tokunoshima and Amami-oshima in the Ryukyu Islands, but it often escapes from cultivation in such places as Ohmi-gawa, Nakijin-mura and Yagachi in Okinawa"
2.04	MSN Encarta (http://encarta.msn.com/encyclopedia_761566679_4/Japan.html).	Average annual precipitation in Sapporo [north] is 1,130 mm (45 in), while in Tokyo [central] it is 1,410 mm (55 in) and in Kagoshima [south] it is 2,240 mm (88 in). [Ryukyu Islands are in the south]
2.05	1. Akiyama, S (1988) A revision of the genus <i>Lespedeza</i> section <i>Macrolespedeza</i> (<i>Leguminosae</i>). University of Tokyo Press, Tokyo. 2. Hatusima, S (1967) <i>Lespedeza</i> : Sects. <i>Macrolespedeza</i> and <i>Heterolespedeza</i> from Japan, Korea and Formosa. <i>Memoirs of the Faculty of Agriculture, Kagoshima University</i> 6:12.	1. "Widely cultivated as an ornamental plant". 2. "Usually cultivated as an ornamental plant in Okinawa, Okierabu, Tokunoshima and Amami-oshima in the Ryukyu Islands, but it often escapes from cultivation in such places as Ohmi-gawa, Nakijin-mura and Yagachi in Okinawa".
3.01	1. Hawaiian Ecosystems at Risk	1. Listed as naturalized in Japan;

	(http://hear.org/gcw/species/lespedeza_liukiensis/). 2. Hatusima, S (1967) Lespedeza: Sects. Macrolespedeza and Heterolespedeza from Japan, Corea and Formosa. Memoirs of the Faculty of Agriculture, Kagoshima University 6:12.	"Naturalized plants from foreign country into Japan". 2. "Usually cultivated as an ornamental plant in Okinawa, Okierabu, Tokunoshima and Amami-oshima in the Ryukyu Islands, but it often escapes from cultivation in such places as Ohmi-gawa, Nakijin-mura and Yagachi in Okinawa".
3.02		no evidence
3.03		no evidence
3.04		no evidence
3.05	Holm, L, JV Pancho, JP Herberger, and DL Plucknett (1979) A Geographical Atlas of World Weeds. John Wiley and Sons, New York.	Two congeners are common weeds in two countries and two others are present as weeds in one country [not enough evidence to be considered weeds].
4.01	Hatusima, S (1967) Lespedeza: Sects. Macrolespedeza and Heterolespedeza from Japan, Corea and Formosa. Memoirs of the Faculty of Agriculture, Kagoshima University 6:12.	no description of these traits
4.02		
4.03	Hatusima, S (1967) Lespedeza: Sects. Macrolespedeza and Heterolespedeza from Japan, Corea and Formosa. Memoirs of the Faculty of Agriculture, Kagoshima University 6:12.	no description of parasitism
4.04		
4.05	Hatusima, S (1967) Lespedeza: Sects. Macrolespedeza and Heterolespedeza from Japan, Corea and Formosa. Memoirs of the Faculty of Agriculture, Kagoshima University 6:12.	no evidence
4.06		
4.07	Hatusima, S (1967) Lespedeza: Sects. Macrolespedeza and Heterolespedeza from Japan, Corea and Formosa. Memoirs of the Faculty of Agriculture, Kagoshima University 6:12.	no evidence
4.08		
4.09		
4.1	USDA, National Resources Conservation Services (NRCS), Soil Survey Division, World Soil Resources	Entisols are present in this region.

	(http://soils.usda.gov/use/worldsoils/mapindex/order.html).	
4.11	Hatusima, S (1967) <i>Lespedeza</i> : Sects. <i>Macrolespedeza</i> and <i>Heterolespedeza</i> from Japan, Corea and Formosa. Memoirs of the Faculty of Agriculture, Kagoshima University 6:12.	"Frutex ramosus" [Many-branched shrub].
4.12		
5.01		terrestrial
5.02	Hatusima, S (1967) <i>Lespedeza</i> : Sects. <i>Macrolespedeza</i> and <i>Heterolespedeza</i> from Japan, Corea and Formosa. Memoirs of the Faculty of Agriculture, Kagoshima University 6:12.	Fabaceae
5.03	Hatusima, S (1967) <i>Lespedeza</i> : Sects. <i>Macrolespedeza</i> and <i>Heterolespedeza</i> from Japan, Corea and Formosa. Memoirs of the Faculty of Agriculture, Kagoshima University 6:12.	Fabaceae
5.04	Hatusima, S (1967) <i>Lespedeza</i> : Sects. <i>Macrolespedeza</i> and <i>Heterolespedeza</i> from Japan, Corea and Formosa. Memoirs of the Faculty of Agriculture, Kagoshima University 6:12.	"Frutex ramosus" [Many-branched shrub].
6.01	Hatusima, S (1967) <i>Lespedeza</i> : Sects. <i>Macrolespedeza</i> and <i>Heterolespedeza</i> from Japan, Corea and Formosa. Memoirs of the Faculty of Agriculture, Kagoshima University 6:12.	no evidence
6.02		
6.03		
6.04		
6.05		
6.06		
6.07		
7.01		
7.02	1. Akiyama, S (1988) A revision of the genus <i>Lespedeza</i> section <i>Macrolespedeza</i> (<i>Leguminosae</i>). University of Tokyo Press, Tokyo. 2. Hatusima, S (1967) <i>Lespedeza</i> : Sects. <i>Macrolespedeza</i> and <i>Heterolespedeza</i> from Japan, Corea and Formosa. Memoirs of the Faculty of	1. "Widely cultivated as an ornamental plant". 2. "Usually cultivated as an ornamental plant in Okinawa, Okierabu, Tokunoshima and Amami-oshima in the Ryukyu Islands, but it often escapes from cultivation in such places as Ohmi-gawa, Nakijin-mura and Yagachi in Okinawa".

	Agriculture, Kagoshima University 6:12.	
7.03		no evidence
7.04		
7.05		
7.06		
7.07		
7.08		
8.01		
8.02		
8.03		
8.04		
8.05		