

<i>Paulownia fortunei</i> (Dragontree)		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 FL 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)	y	1
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	?	
3.02	Garden/amenity/disturbance weed	y	2
3.03	Weed of agriculture		
3.04	Environmental weed		
3.05	Congeneric weed	y	2
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	n	0
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		
4.10	Grows on infertile soils (oligotrophic, limerock, or excessively draining soils). North & Central Zones: infertile soils; South Zone: shallow limerock or Histisols.	?	
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	n	0
5.04	Geophyte	n	0
6.01	Evidence of substantial reproductive failure in native habitat		
6.02	Produces viable seed	y	1
6.03	Hybridizes naturally	y	1
6.04	Self-compatible or apomictic		
6.05	Requires specialist pollinators		
6.06	Reproduction by vegetative propagation	y	1
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		
7.04	Propagules adapted to wind dispersal	y	1
7.05	Propagules water dispersed	y	1
7.06	Propagules bird dispersed		
7.07	Propagules dispersed by other animals (externally)	n	-1
7.08	Propagules dispersed by other animals (internally)		
8.01	Prolific seed production	y	1
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	y	1
8.05	Effective natural enemies present in U.S.		
	Total Score		13
	Implemented Pacific Second Screening		No
	Risk Assessment Results		High risk

	Reference	Source data
1.01		Cultivated but no evidence for selection of reduced weediness.
1.02		Skip to 2.01
1.03		Skip to 2.01
2.01	1. PERAL NAPPFast Global Plant Hardiness (http://www.nappfast.org/Plant_hardiness/NAPPFast%20Global%20zones/10-year%20climate/PLANT_HARDINESS_10YR%20lgnD.tif) & USDA Plant Hardiness Zone Map, 2012. Agricultural Research Service, U.S. Department of Agriculture. Accessed from http://planthardiness.ars.usda.gov . 2. USDA/ARS-GRIN [Online Database]. National Germplasm Resources Laboratory, Beltsville, Maryland. http://www.ars-grin.gov/cgi-bin/npgs/html/taxgenform.pl?language=en (23 Sept 2013).	No computer analysis was performed. 1. Global plant hardiness zones (8-?)9-12 (-13?); equivalent to USDA Hardiness zones 8a-11b (north, central, & south zones of Florida). 2. Native to China, Laos, Taiwan, Vietnam.
2.02		No computer analysis was performed. 1. Native range is well known; refer to 2.01 source data.
2.03	1. Köppen-Geiger climate map (http://www.hydrol-earth-syst-sci.net/11/1633/2007/hess-11-1633-2007.pdf).	1. Native distribution occurs in more than three climatic groups (Am, Aw, BSh, Cfa, Cfb, Cwa, Cwb).
2.04	1. The World Bank. http://data.worldbank.org/indicator/AG.LND.PRCP.MM . Accessed 23 Sept 2013.	1. 645 mm-2526 mm (25.4"-99.4").
2.05	1. Kumar, P.P. et al. 1999. Seed surface Architecture and Randon Amplified Polymorphic DNA Profiles of <i>Paulownia fortunei</i> , <i>P. tomentosa</i> and their Hybrid. <i>Annals of Botany</i> , 83(): 103-107. 2. Government of Western Australia, Department of Agriculture and Food. TreeNote No. 9 - <i>Paulownia</i> (June 1998; revised May 2005). http://www.agric.wa.gov.au/PC_92536.html . Accessed 23 September 2013.	1. <i>Paulownia</i> (specific species not provided) have been introduced to North America, Australia, Europe and Japan. 2. <i>Paulownia</i> (specific species not provided) is grown commercially in South America and the United States, where it has naturalized in Appalachian forests. Commercial development has been attempted in Australia, New Zealand and South Africa.
3.01	1. Government of Western Australia, Department of Agriculture and Food. TreeNote No. 9 - <i>Paulownia</i> (June 1998; revised May 2005). http://www.agric.wa.gov.au/PC_92536.html . Accessed 23 September 2013.	1. <i>Paulownia</i> (specific species not provided) is grown commercially in South America and the United States, where it has naturalised in Appalachian forests.
3.02	1. North Coast Weeds Advisory Committee (NCWAC). <i>Paulownia – Paulownia fortunei, P. tomentosa</i> . http://www.northcoastweeds.org.au/paulownia/ . Accessed 23 September 2013.	1. Nominated as a noxious weed in New South Wales.
3.03		
3.04		

3.05	1. Global Invasive Species Database, 2005. <i>Paulownia tomentosa</i> . Available from: http://www.issg.org/database/species/search.asp?sts=sss&st=sss&fr=1&x=0&y=0&sn=paulownia&rn=&hci=-1&ei=-1&lang=EN . [Accessed 23 September 2013].	1. <i>Paulownia tomentosa</i> is considered to be an aggressive ornamental tree that grows rapidly in disturbed places.
4.01		No evidence for these morphological features.
4.02		
4.03	1. eFloras (2008). Published on the Internet http://www.efloras.org [accessed 23 September 2013]. Missouri Botanical Garden, St. Louis, MO & Harvard University Herbaria, Cambridge, MA.	1. <i>Scrophulariaceae</i> family is not known as a parasitic taxon.
4.04	1. Innes, RJ. 2009. <i>Paulownia tomentosa</i> . In: <i>Fire Effects Information System</i> [Online]. U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station, Fire Sciences Laboratory (Producer). Available: http://www.fs.fed.us/databases/feis [23 September 2013]. 2. Government of Western Australia, Department of Agriculture and Food. TreeNote No. 9 - <i>Paulownia</i> (June 1998; revised May 2005). http://www.agric.wa.gov.au/PC_92536.html . Accessed 23 September 2013.	1. <i>Paulownia fortunei</i> leaves were highly palatable to domestic goats in experimental studies, but it is not known whether the leaves would be favored when given a choice of species. 2. <i>Paulownia</i> (species not specified) leaves can provide useful fodder for stock.
4.05	1. Government of Western Australia, Department of Agriculture and Food. TreeNote No. 9 - <i>Paulownia</i> (June 1998; revised May 2005). http://www.agric.wa.gov.au/PC_92536.html . Accessed 23 September 2013.	1. <i>Paulownia</i> (species not specified) leaves can provide useful fodder for stock.
4.06	1. CABI, 2013. <i>Paulownia fortunei</i> . In: <i>Invasive Species Compendium</i> . Wallingford, UK: CAB International. www.cabi.org/isc .	1. Minor pests/pathogens include <i>Nezara viridula</i> (green stink bug); paulownia witches' broom phytoplasma. 2. In Asia, <i>Paulownia</i> is affected by many pests and disease, including anthracnose, mistletoe and insect attack. The most serious disease is witches' broom.
4.07		No evidence.
4.08		
4.09		
4.10	1. Government of Western Australia, Department of Agriculture and Food. TreeNote No. 9 - <i>Paulownia</i> (June 1998; revised May 2005). http://www.agric.wa.gov.au/PC_92536.html . Accessed 23 September 2013.	1. Grows best on deep, well-drained fertile soils such as loam or sandy loam. Grows poorly on shallow soils and shallow duplex soils.
4.11		
4.12		

5.01	1. eFloras (2008). Published on the Internet http://www.efloras.org [accessed 23 September 2013]. Missouri Botanical Garden, St. Louis, MO & Harvard University Herbaria, Cambridge, MA.	1. Family: <i>Scrophulariaceae</i> ; tree to 30 m tall.
5.02	1. eFloras (2008). Published on the Internet http://www.efloras.org [accessed 23 September 2013]. Missouri Botanical Garden, St. Louis, MO & Harvard University Herbaria, Cambridge, MA.	1. Family: <i>Scrophulariaceae</i> ; tree to 30 m tall.
5.03	1. eFloras (2008). Published on the Internet http://www.efloras.org [accessed 23 September 2013]. Missouri Botanical Garden, St. Louis, MO & Harvard University Herbaria, Cambridge, MA.	1. Family: <i>Scrophulariaceae</i> ; tree to 30 m tall.
5.04		No evidence of tubers, corms, or bulbs.
6.01		
6.02	1. Government of Western Australia, Department of Agriculture and Food. TreeNote No. 9 - <i>Paulownia</i> (June 1998; revised May 2005). http://www.agric.wa.gov.au/PC_92536.html . Accessed 23 September 2013.	1. <i>Paulownia</i> plants can be propagated from seed.
6.03	1. Wang, WY et al. 1994. Molecular evidence for the hybrid origin of <i>Paulownia taiwaniana</i> based on RAPD markers and RFLP of chloroplast DNA. <i>Theoretical and Applied Genetics</i> , 89: 271-275. 2. Kumar, P.P. et al. 1999. Seed surface Architecture and Randon Amplified Polymorphic DNA Profiles of <i>Paulownia fortunei</i> , <i>P. tomentosa</i> and their Hybrid. <i>Annals of Botany</i> , 83(): 103-107.	1. <i>P. taiwaniana</i> is the natural hybrid between <i>P. fortunei</i> and <i>P. kawakamii</i> . It is recommend that <i>P. taiwaniana</i> should be renamed as <i>P. kawakamii</i> x <i>P.fortunei</i> . 2. Observations confirm the hybrid status of the taxon under study (i.e., <i>P. fortunei</i> x <i>P. tomentosa</i>) and suggest that <i>P. fortunei</i> is likely to be the female parent of this natural hybrid.
6.04		
6.05		
6.06	1. Government of Western Australia, Department of Agriculture and Food. TreeNote No. 9 - <i>Paulownia</i> (June 1998; revised May 2005). http://www.agric.wa.gov.au/PC_92536.html . Accessed 23 September 2013. 2. North Coast Weeds Advisory Committee (NCWAC). <i>Paulownia – Paulownia fortunei</i> , <i>P. tomentosa</i> . http://www.northcoastweeds.org.au/paulownia/ . Accessed 23 September 2013.	1. <i>Paulownia</i> plants can be propagated from stem and root cuttings. 2. Can grow from damaged or cut roots.
6.07		
7.01		
7.02	1. USDA/ARS-GRIN [Online Database]. National Germplasm Resources Laboratory, Beltsville, Maryland. http://www.ars-grin.gov/cgi-bin/npgs/html/taxgenform.pl?language=en (23 Sept 2013).	1. Economic importance: ornamental.
7.03		

7.04	1. Kumar, P.P. et al. 1999. Seed surface Architecture and Randon Amplified Polumorphic DNA Profiles of <i>Paulownia fortunei</i> , <i>P. tomentose</i> and their Hybrid. <i>Annals of Botany</i> , 83(): 103-107. 2. North Coast Weeds Advisory Committee (NCWAC). <i>Paulownia – Paulownia fortunei</i> , <i>P. tomentosa</i> . http://www.northcoastweeds.org.au/paulownia/ . Accessed 23 September 2013.	1. The winged seeds of <i>Paulownia</i> are oval, ranging in length from 3 to 7 mm. 2. Seeds can be carried by wind.
7.05	1. North Coast Weeds Advisory Committee (NCWAC). <i>Paulownia – Paulownia fortunei</i> , <i>P. tomentosa</i> . http://www.northcoastweeds.org.au/paulownia/ . Accessed 23 September 2013.	1. Seeds can be carried by water.
7.06		
7.07		No morphological feathures that would suggest that it could attach itself externally to animals.
7.08		
8.01	1. North Coast Weeds Advisory Committee (NCWAC). <i>Paulownia – Paulownia fortunei</i> , <i>P. tomentosa</i> . http://www.northcoastweeds.org.au/paulownia/ . Accessed 23 September 2013.	1. A mature tree may produce millions of seeds
8.02		
8.03	1. Moorehead, DJ. Invasive Plant Control in Forests. http://www.bugwood.org/2012InvasivePlants.pdf . Accessed 23 September 2013.	***NOTE*** The following herbicide treatments are specifically for <i>P. tomentosa</i> but should be applicable for <i>P. fortunei</i> as well: 1. Large trees: make stem injections using ARSENAL AC, POLARIS AC, IMAZAPYR 4SL or a glyphosate herbicide in dilutions and cut spacings specified on the herbicide label (anytime except March and April). For felled trees, apply these herbicides to stem and stump tops immediately after cutting. Saplings: apply GARLON 4 as a 2 /percent solution in commercially available basal oil, diesel fuel, or kerosene (2.5 quarts per 3 gallon mix) with a penetrant (check with herbicide distributor) to young bark as a basal spray. Resprouts and seedlings: thoroughly wet all leaves with one of the following herbicides in water with a surfactant (July to October). ARSNAL AC*, POLARIS AC*, IMAZAPYR 4S*L, as a 1 percent solution (4 ounces per 3 gallon mix); a glyphosate herbicide, GARLON 3A, or GARLON 4 as a 2 percent solution (8 ounces per 3 gallon mix).

8.04	<p>1. North Coast Weeds Advisory Committee (NCWAC). <i>Paulownia</i> – <i>Paulownia fortunei</i>, <i>P. tomentosa</i> . http://www.northcoastweeds.org.au/paulownia/. Accessed 23 September 2013. 2. Government of Western Australia, Department of Agriculture and Food. TreeNote No. 9 - <i>Paulownia</i> (June 1998; revised May 2005). http://www.agric.wa.gov.au/PC_92536.html. Accessed 23 September 2013.</p>	<p>1. Can grow from damaged or cut roots. 2. Coppicing is successful; vigorous new shoots appear from the coppiced stump.</p>
8.05		