

<i>Phyllostachys rubromarginata (Red-margined bamboo) -- FLORIDA</i>		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?	y	
3.01	Naturalized beyond native range		
3.02	Garden/amenity/disturbance weed		
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		
4.06	Host for recognised pests and pathogens	n	0
4.07	Causes allergies or is otherwise toxic to humans		
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
4.10	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	n	0
4.12	Forms dense thickets	unk	0
5.01	Aquatic	n	0
5.02	Grass	y	1
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		
6.03	Hybridizes naturally	n	-1
6.04	Self-compatible or apomictic		
6.05	Requires specialist pollinators	n	0
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	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)	n	-1
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)	n	-1
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		2	
Implemented Pacific Second Screening		yes	
Risk Assessment Results		Evaluate	

section	# questions answered	satisfy minimum?
A		7 yes
B		5 yes
C		12 yes
total		24 yes

	Reference	Source data
1.01		Cultivated, but no evidence of selection for 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%20lnd.tif). 2. USDA, ARS, National Genetic Resources Program. Germplasm Resources Information Network - (GRIN) [Online Database]. National Germplasm Resources Laboratory, Beltsville, Maryland. http://www.ars-grin.gov/cgi-bin/npgs/html/taxon.pl?409896 (13 March 2014)..	No computer analysis was performed. 1. Global hardiness zone: (8-?)9-10(-11+?); equivalent to USDA Hardiness zones: (<?)8a-9b(>?). 2. Native to Asia-Temperate: China - Anhui [s.e.], Guangdong, Guangxi.
2.02		No computer analysis was performed. 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. Distribution in the native/cultivated range occurs in at least 3 climatic zones. 2. Frost resistant to -15°C without serious leaf damage.
2.04	1. World Climate Maps. http://www.climate-charts.com/World-Climates-Maps.html . Accessed 18 July 2014.	1. Native areas: 725 mm-1474+ mm (28.6"-58.1+").
2.05	1. Standard internet search.	1. Available from internet nurseries/farms. 2. Cultivated in Europe and introduced to USA (date unknown) and to Germany in 1979.
3.01		No evidence found.
3.02		
3.03		No evidence found.
3.04		No evidence found.
3.05	1. Holm et al. A Geographical Atlas of World Weeds. New York: John Wiley & Sons, 1979. Print.	1. <i>Phyllostachys mitis</i> is a principal weed in New Zealand.
4.01		These structures are not included in the description of this species.
4.02		No evidence found.
4.03	1. USDA, ARS, National Genetic Resources Program. Germplasm Resources Information Network - (GRIN) [Online Database]. National Germplasm Resources Laboratory, Beltsville, Maryland. http://www.ars-grin.gov/cgi-bin/npgs/html/taxon.pl?409896 (00 Month 0000).	1. Family: Poaceae (not a parasitic family).
4.04		No evidence found.
4.05		No evidence found.
4.06	1. Salvo, S.K. 1994. Vegetative cover for low level radioactive waste sites. <i>Landscape and Urban Planning</i> , 29(1): 25-29.	1. Bamboo is free of most insect and disease problems.
4.07		No evidence found.
4.08		No evidence found.
4.09	1. American Bamboo Society. Bamboo Species List. Accessed: 17 July 2014. http://www.bamboo.org/BambooSourceList/BambooPlants.php?G=All&M=1&Button=Find&U=I&S=1	1. Full sun.
4.10		
4.11	1. eFloras (2008). Published on the Internet http://www.efloras.org [accessed 2 June 2014] Missouri Botanical Garden, St. Louis, MO & Harvard University Herbaria, Cambridge, MA.	1. Culms ca. 3.5 m, ca. 2.5 cm in diameter.

4.12	1. Salvo, S.K. 1994. Vegetative cover for low level radioactive waste sites. <i>Landscape and Urban Planning</i> , 29(1): 25-29.	1. Dense stands developed when fertilized with an annual application of 90-100 lbs of N/acre. The unique rooting habit of bamboo produces a dense root mass similar to that produced by sod forming grasses. When planted on 4 ft centers and properly cultivated, <i>P. rubromarginata</i> is capable of producing dense vegetative cover in four growing seasons.
5.01	1. USDA, ARS, National Genetic Resources Program. Germplasm Resources Information Network - (GRIN) [Online Database]. National Germplasm Resources Laboratory, Beltsville, Maryland. http://www.ars-grin.gov/cgi-bin/npgs/html/taxon.pl?409896 (13 March 2014).	1. Family: Poaceae.
5.02	1. USDA, ARS, National Genetic Resources Program. Germplasm Resources Information Network - (GRIN) [Online Database]. National Germplasm Resources Laboratory, Beltsville, Maryland. http://www.ars-grin.gov/cgi-bin/npgs/html/taxon.pl?409896 (13 March 2014).	1. Family: Poaceae.
5.03	1. USDA, ARS, National Genetic Resources Program. Germplasm Resources Information Network - (GRIN) [Online Database]. National Germplasm Resources Laboratory, Beltsville, Maryland. http://www.ars-grin.gov/cgi-bin/npgs/html/taxon.pl?409896 (13 March 2014).	1. Family: Poaceae.
5.04	1. Wang, K. et al. 2010. Identification of genes related to the development of bamboo rhizome bud. <i>Journal of Experimental Botany</i> , 61(2): 551-561.	1. According to the type of the rhizome, bamboos have been divided into three groups: scattered bamboos with a monopodial rhizome, caespitose bamboos with a sympodial rhizome, and pluricaespitose bamboos with a monopodial and sympodial rhizome. The rhizome bud can either develop into a bamboo shoot which will grow into a bamboo culm in a very short period, or develop into a new rhizome which will enable the sustainable production of the bamboo grove.
6.01		No evidence found.
6.02	WHEN YES: 1. John, CK et al. 1994. Selection - A valuable method for bamboo improvement. <i>Current Science (Bangalore)</i> , 66(11): 822-824.	WHEN NO: provide data or no evidence found. WHEN YES: The most easy method of bamboo propagation is by means of seeds. Propagation of economically important bamboo species by seeds is not possible annually because of their very long inter-mast periods.
6.03	1. John, CK et al. 1994. Selection - A valuable method for bamboo improvement. <i>Current Science (Bangalore)</i> , 66(11): 822-824.	1. The peculiar flowering behaviour in bamboos make genetic improvement by hybridizations very difficult. The flowering and seeding at long intervals (7-120 years) render the overlapping of flowering in more than one species, in the same locality very difficult to obtain, making attempts at hybridizations impossible.
6.04	WHEN NO: 1. John, CK et al. 1994. Selection - A valuable method for bamboo improvement. <i>Current Science (Bangalore)</i> , 66(11): 822-824.	WHEN NO: 1. Reproductive biology is not well understood in most of the species. Two categories are apparent so far: (i) species which exhibit dichogamy and protogyny and (ii) species in which the androecium and gynoecium mature at the same time. In species under the first category, only cross-pollination is possible. In the second category selfing is difficult because of the differential position of the anthers and the stigma, when they are mature.
6.05	1. Shor, B., Southern California Chapter. From Flowers to Seedlings. American Bamboo Society. Accessed: 18 March 2014. http://www.bamboo.org/GeneralInfoPages/FromFlowersToSeedlings.html	1. Most bamboos are wind-pollinated. Insects may be involved with some species.

6.06	1. Wang, K. et al. 2010. Identification of genes related to the development of bamboo rhizome bud. Journal of Experimental Botany, 61(2): 551–561.	1. The rhizome bud can either develop into a bamboo shoot which will grow into a bamboo culm in a very short period, or develop into a new rhizome which will enable the sustainable production of the bamboo grove.
6.07		Flowering and seeding at long intervals (7-120 years)
7.01		No evidence found.
7.02	1. Scurlock et al. 2000 Bamboo: an overlooked biomass resource? Biomass and Bioenergy, 19:229-244. 2. Liese and Hamburg. 1987. Research on bamboo. Wood Science and Technology, 21:189-209. 3. USDA, ARS, National Genetic Resources Program. Germplasm Resources Information Network - (GRIN) [Online Database]. National Germplasm Resources Laboratory, Beltsville, Maryland. http://www.ars-grin.gov/cgi-bin/npgs/html/taxon.pl?409896 (13 March 2014).	1. Cultivated for erosion control, windbreaks, building material, food, bamboo fiber clothes, etc. 2. Also, has been proposed as a source for pulp for paper and possible biofuel source. 3. Economic importance: materials (cane, fiber).
7.03	1. John, CK et al. 1994. Selection - A valuable method for bamboo improvement. Current Science (Bangalore), 66(11): 822-824.	1. Very unlikely. The longevity of the seeds varies from species to species, but usually only last 2-3 months under natural conditions. Furthermore, seeds must be sowed immediately in optimal conditions to prevent damping off.
7.04		No morphological features (i.e., wings) that would suggest bamboo seeds are adapted for wind.
7.05		No evidence found.
7.06		No evidence found.
7.07		No morphological features that would suggest bamboo seeds are adapted for attachment.
7.08		No evidence found.
8.01		No evidence found.
8.02	1. John, CK et al. 1994. Selection - A valuable method for bamboo improvement. Current Science (Bangalore), 66(11): 822-824.	1. The longevity of the seeds varies from species to species. Under natural conditions it is for 2-3 months.
8.03		1. Glyphosate can be safely used to spot-treat invading herbaceous perennials and woody plants without harm to the bamboo.
8.04		
8.05		No evidence found.