

	<i>Dendrocalamus giganteus</i> ( <i>Sinocalamus giganteus</i> , <i>Bambusa gigantea</i> ) giant bamboo, long zhu -- FLORIDA	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		
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		
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.	unk	
4.11	Climbing or smothering growth habit	n	0
4.12	Forms dense thickets	?	
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	y	1
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)	24	-1
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	n	-1
7.06	Propagules bird dispersed	n	-1
7.07	Propagules dispersed by other animals (externally)	n	-1
7.08	Propagules dispersed by other animals (internally)	n	-1

8.01	Prolific seed production	n	-1
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.		
<b>Total Score</b>		<b>-4</b>	
<b>Implemented Pacific Second Screening</b>		<b>n/a</b>	
<b>Risk Assessment Results</b>		<b>Low Risk</b>	

section	# questions answered	satisfy minimum?
A		8 yes
B		10 yes
C		17 yes
total		35 yes

	Reference	Source data
1.01		Cultivated, but no evidence of selection for reduced weediness.
1.02		Skip to question 2.01
1.03		Skip to question 2.01
2.01	1. Clayton et al. (2006 onwards) Grassbase-the Online World Grass Flora. ( <a href="http://www.kew.org/data/grasses-db.html">http://www.kew.org/data/grasses-db.html</a> [accessed 22 Jan 2014]). 2. Flora of China ( <a href="http://flora.huh.harvard.edu/china/index.html">http://flora.huh.harvard.edu/china/index.html</a> [accessed 22 Jan 2014]). 3. Dave's garden( <a href="http://davesgarden.com/guides">davesgarden.com/guides</a> [accessed 22 Jan 2014]). 4. PERAL NAPPFAST Global Plant Hardiness ( <a href="http://www.nappfast.org/Plant_hardiness/NAPPFAST%20Global%20zones/10-year%20climate/PLANT_HARDINESS_10YR%20lgnd.tif">http://www.nappfast.org/Plant_hardiness/NAPPFAST%20Global%20zones/10-year%20climate/PLANT_HARDINESS_10YR%20lgnd.tif</a> ). 5. USDA/ARS-GRIN [Online Database]. National Germplasm Resources Laboratory, Beltsville, Maryland ( <a href="http://www.ars-grin.gov/cgi-bin/npgs/html/taxon.pl?405679">http://www.ars-grin.gov/cgi-bin/npgs/html/taxon.pl?405679</a> [accessed 22 Jan 2014]). 6. Eco Crop, Food and Agriculture Organization of the UN ( <a href="http://ecocrop.fao.org/ecocrop">http://ecocrop.fao.org/ecocrop</a> [accessed 29 Jan 2014])	No computer analysis was performed. 1. Distribution in Africa (western Indian Ocean), Asia-temperate (China and eastern Asia), and Asia-tropical (India, Indo-China, and Malasia). 2. Yunnan province of China, cultivated in Taiwan, Malaysia, and Thailand. 3. Hardiness USDA Zone 9b to 11. 4. Global plant hardiness zones: 9-12. 5. Native: Asia-temperate China (Yunnan), Asia-tropical Myanmar, Thailand. Uncertain Origin in Malaysia. Cultivated in Africa (Madagascar), Asia-temperate (Taiwan), Asia-tropical (Bangladesh, Bhutan, India, Sri Lanka, Laos, Myanmar, Thailand, Vietnam, Indonesia, Malaysia). 6. Bamboos grow between the latitudes 40°N and S. Though the big bamboo forests usually occur between 15-25°N and S.
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 ( <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> ). See source data for 2.01.	1. Distribution in the native and cultivated ranges in at least 3 climatic groups ( Cfa, Am, Aw, Af)
2.04	1. World Climate Maps ( <a href="http://www.climate-charts.com">http://www.climate-charts.com</a> [accessed 29 Jan 2014]). 2. China Climate Map of Annual Average Precipitation ( <a href="http://www.chinamaps.org">http://www.chinamaps.org</a> [accessed 29 Jan 2014]) 3. Average Weather and Climate in Madagascar ( <a href="http://www.weather-and-climate.com">http://www.weather-and-climate.com</a> [accessed 29 Jan 2014]).	1. Distibution includes areas receiving up to 97 inches of rain. 2. For example, the portion of the native range in the Yunnan Province of China receives 15-47 inches of precipitation annually. 3. Present in Madagascar where the annual precipitation ranges between 39 and 59 inches.
2.05	1. Flora of China ( <a href="http://flora.huh.harvard.edu/china/index.html">http://flora.huh.harvard.edu/china/index.html</a> [accessed 22 Jan 2014]). 2. USDA/ARS-GRIN [Online Database]. National Germplasm Resources Laboratory, Beltsville, Maryland ( <a href="http://www.ars-grin.gov/cgi-bin/npgs/html/taxon.pl?405679">http://www.ars-grin.gov/cgi-bin/npgs/html/taxon.pl?405679</a> [accessed 22 Jan 2014]). 3. Crowley Nursery & Gardens, Inc. ( <a href="http://crowleynursery.net/bamboo_old.htm">http://crowleynursery.net/bamboo_old.htm</a> [accessed 29 Jan 2014]). 4. Tropical Bamboo ( <a href="http://www.tropicalbamboo.com/shopping.asp">http://www.tropicalbamboo.com/shopping.asp</a> [accessed 29 Jan 2014]).	1. Cultivated in Taiwan, Malaysia, and Thailand. 2. Cultivated in Africa (Madagascar), Asia-temperate (Taiwan), Asia-tropical (Bangladesh, Bhutan, India, Sri Lanka, Laos, Myanmar, Thailand, Vietnam, Indonesia, Malaysia). 3. Available for the public to purchase in Sarasota. 4. Available for purchase online.
3.01	1. Ramanayake & Yakandawala (1998) Incidence of flowering, death, and phenology of development in the giant bamboo giganteus Wall. Ex Munro). <i>Annals Bot</i> 82:779-785.	1. Introduced population in Sri Lanka flowered, but did not exhibit mast seeding. There were some seedlings observed under a few flowering clumps, but there was no indication naturalization was occurring.
3.02		No Evidence
3.03		No Evidence
3.04		No Evidence
3.05		No Evidence
4.01		No Evidence
4.02	1. Schultz et al. (2010) Alelopatia de bambu ( <i>Dendrocalamus giganteus</i> MU RO). <i>Cultivando</i> 3:31-39.	1. Aqueous extracts of <i>D. giganteus</i> did not affect % germination or the length of the primary root of lettuce (as indicator species), but did affect the timing of germination with reduced germination rates with increases in extract concentration.
4.03		No Evidence
4.04		No Evidence

4.05	1. PROSEA detail <i>Dendrocalamus giganteus</i> ( <a href="http://proseanet.org/prosea/e-prosea_detail.php?frt=&amp;id=41">http://proseanet.org/prosea/e-prosea_detail.php?frt=&amp;id=41</a> [accessed 29 Jan 2014]). 2. Chongtham et al (2007) Changes in nutrient components during ageing of emerging juvenile bamboo shoots. <i>Int J Food Sci Nutrition</i> 58:612-619.	1. Young shoots are edible. 2. The newly emerging, tender juvenile shoots of bamboos that belong to the tribe Bambuseae, subfamily Bambusoideae of family Poaceae, are edible.
4.06	1. PROSEA detail <i>Dendrocalamus giganteus</i> ( <a href="http://proseanet.org/prosea/e-prosea_detail.php?frt=&amp;id=41">http://proseanet.org/prosea/e-prosea_detail.php?frt=&amp;id=41</a> [accessed 29 Jan 2014])	1. No serious diseases or pests , but the fungus <i>Pycnoporus sanguinus</i> and powder-post beetles may attack harvested material.
4.07		No Evidence
4.08		No Evidence
4.09		Many nursery sites indicate grows in full sun to partial shade, but no definitive evidence of shade tolerance.
4.10		No Evidence
4.11	1. Ramanayake & Yakandawala (1998) Incidence of flowering, death, and phenology of development in the giant bamboo <i>giganteus</i> Wall. Ex Munro). <i>Annals Bot</i> 82:779-785. 2. PROSEA detail <i>Dendrocalamus giganteus</i> ( <a href="http://proseanet.org/prosea/e-prosea_detail.php?frt=&amp;id=41">http://proseanet.org/prosea/e-prosea_detail.php?frt=&amp;id=41</a> [accessed 29 Jan 2014]).	1. <i>D. giganteus</i> is a clumping bamboo (not a running bamboo)
4.12	1. Ramanayake & Yakandawala (1998) Incidence of flowering, death, and phenology of development in the giant bamboo <i>giganteus</i> Wall. Ex Munro). <i>Annals Bot</i> 82:779-785.	No direct evidence of forming dense thickets 1. <i>D. giganteus</i> is a clumping bamboo (not a running bamboo). Culm density in clumps growing in Sri Lanka were described as "massive" with a mean 208.7 culms per clump.
5.01	1. USDA/ARS-GRIN [Online Database]. National Germplasm Resources Laboratory, Beltsville, Maryland ( <a href="http://www.ars-grin.gov/cgi-bin/npgs/html/taxon.pl?405679">http://www.ars-grin.gov/cgi-bin/npgs/html/taxon.pl?405679</a> [accessed 22 Jan 2014]). 2. Clayton et al. (2006 onwards) Grassbase-the Online World Grass Flora. ( <a href="http://www.kew.org/data/grasses-db.html">http://www.kew.org/data/grasses-db.html</a> [accessed 22 Jan 2014]).	No evidence of aquatic growth habit. 1 & 2. Family Poaceae.
5.02	1. USDA/ARS-GRIN [Online Database]. National Germplasm Resources Laboratory, Beltsville, Maryland ( <a href="http://www.ars-grin.gov/cgi-bin/npgs/html/taxon.pl?405679">http://www.ars-grin.gov/cgi-bin/npgs/html/taxon.pl?405679</a> [accessed 22 Jan 2014]). 2. Clayton et al. (2006 onwards) Grassbase-the Online World Grass Flora. ( <a href="http://www.kew.org/data/grasses-db.html">http://www.kew.org/data/grasses-db.html</a> [accessed 22 Jan 2014]).	1 & 2. Family Poaceae
5.03	1. USDA/ARS-GRIN [Online Database]. National Germplasm Resources Laboratory, Beltsville, Maryland ( <a href="http://www.ars-grin.gov/cgi-bin/npgs/html/taxon.pl?405679">http://www.ars-grin.gov/cgi-bin/npgs/html/taxon.pl?405679</a> [accessed 22 Jan 2014]). 2. Clayton et al. (2006 onwards) Grassbase-the Online World Grass Flora. ( <a href="http://www.kew.org/data/grasses-db.html">http://www.kew.org/data/grasses-db.html</a> [accessed 22 Jan 2014]).	1 & 2. Family Poaceae
5.04	1. Ziv & Noar (2006) Flowering of geophytes in vitro. <i>Propagation of Ornamental Plants</i> 6: 3-16	1. Geophyte with long juvenile period.
6.01	1. Jantzen (1976) Why bamboos wait so long to flower. <i>Ann Rev Ecol Syst</i> 7:347-391. 2. Ramanayake & Yakandawala (1998) Incidence of flowering, death, and phenology of development in the giant bamboo <i>giganteus</i> Wall. Ex Munro). <i>Annals Bot</i> 82:779-785.	1. Bamboos are woody perennials that gregariously flower, seed, and die with intermast periods of 29-76 years. Introduced population of <i>D. giganteus</i> observed to survive after flowering with no indication of mast seeding.
6.02	1. Ramanayake & Yakandawala (1998) Incidence of flowering, death, and phenology of development in the giant bamboo <i>giganteus</i> Wall. Ex Munro). <i>Annals Bot</i> 82:779-785.	1. Although seed set was rare in populations introduced to Sri Lanka, some seeds germinated in vitro in the laboratory and there were seedlings observed under a few flowering clumps.
6.03		No Evidence
6.04	1. Ramanayake & Yakandawala (1998) Incidence of flowering, death, and phenology of development in the giant bamboo <i>giganteus</i> Wall. Ex Munro). <i>Annals Bot</i> 82:779-785.	1. Little to no seed set indicates some form of incompatibility.

6.05	1. IUCN Red List of Threatened Species ( <a href="http://www.iucnredlist.org">http://www.iucnredlist.org</a> [accessed 24 Jan 2014]) 2. Ramanayake & Yakandawala (1998) Incidence of flowering, death, and phenology of development in the giant bamboo <i>giganteus</i> Wall. Ex Munro). <i>Annals Bot</i> 82:779-785.	1. Wind pollinated 2. Insects observed to visit flowers but do not act as pollinating agents. Insect pollination is rare among grasses.
6.06	1. PROSEA detail <i>Dendrocalamus giganteus</i> ( <a href="http://proseanet.org/prosea/e-prosea_detail.php?frt=&amp;id=41">http://proseanet.org/prosea/e-prosea_detail.php?frt=&amp;id=41</a> [accessed 29 Jan 2014]). 2. Clayton et al. (2006 onwards) Grassbase-the Online World Grass Flora. ( <a href="http://www.kew.org/data/grasses-db.html">http://www.kew.org/data/grasses-db.html</a> [accessed 22 Jan 2014]).	1. Offsets consisted of young shoots with portions of rhizomes attached producing new culms. It is usually propagated by clump division. 2. Rhizomes are short, pachymorph.
6.07	1. Jantzen (1976) Why bamboos wait so long to flower. <i>Ann Rev Ecol Syst</i> 7:347-391. 2. Ramanayake & Yakandawala (1998) Incidence of flowering, death, and phenology of development in the giant bamboo <i>giganteus</i> Wall. Ex Munro). <i>Annals Bot</i> 82:779-785.	1. Jantzen suggests intermast period of 76 years. 2. flowering intervals of this species observed after 29, 43 to 47 years after the introduction of species in Sri Lanka.
7.01		No Evidence, but transportation of rhizome pieces in garden refuse could spread plants as is the case with other rhizomatous plants (i.e. <i>Arundo donax</i> )
7.02	1. Flora of China ( <a href="http://flora.huh.harvard.edu/china/index.html">http://flora.huh.harvard.edu/china/index.html</a> [accessed 22 Jan 2014]). 2. USDA/ARS-GRIN [Online Database]. National Germplasm Resources Laboratory, Beltsville, Maryland ( <a href="http://www.ars-grin.gov/cgi-bin/npgs/html/taxon.pl?405679">http://www.ars-grin.gov/cgi-bin/npgs/html/taxon.pl?405679</a> [accessed 22 Jan 2014]). 3. Crowley Nursery & Gardens, Inc. ( <a href="http://crowleynursery.net/bamboo_old.htm">http://crowleynursery.net/bamboo_old.htm</a> [accessed 29 Jan 2014]). 4. Tropical Bamboo ( <a href="http://www.tropicalbamboo.com/shopping.asp">http://www.tropicalbamboo.com/shopping.asp</a> [accessed 29 Jan 2014]).	1. Cultivated in Taiwan, Malaysia, and Thailand. 2. Cultivated in Africa (Madagascar), Asia-temperate (Taiwan), Asia-tropical (Bangladesh, Bhutan, India, Sri Lanka, Laos, Myanmar, Thailand, Vietnam, Indonesia, Malaysia). 3. Available for the public to purchase in Sarasota. 4. Available for purchase online.
7.03		Contamination unlikely based on the growth form, biology, ecology, or habitat of the species.
7.04		No Evidence
7.05		No Evidence
7.06		No Evidence
7.07		No Evidence
7.08		No Evidence
8.01	1. Ramanayake & Yakandawala (1998) Incidence of flowering, death, and phenology of development in the giant bamboo <i>giganteus</i> Wall. Ex Munro). <i>Annals Bot</i> 82:779-785.	1. Little to no seed set in clumps, one clump set 9% seed (calculated as % of seeds found in total florets in four spikes). <i>D. giganteus</i> does not appear to exhibit mast seeding.
8.02	1. Ramanayake & Yakandawala (1998) Incidence of flowering, death, and phenology of development in the giant bamboo <i>giganteus</i> Wall. Ex Munro). <i>Annals Bot</i> 82:779-785.	1. Little to no seed set in clumps and seedlings were seen under flowing culms indicating quick germination.
8.03		No Evidence
8.04		No Evidence
8.05		No Evidence