

Family: *Poaceae*

Taxon: *Phyllostachys nigra*

Synonym: *Bambusa nigra* Lodd. ex Lindl
Phyllostachys nigra f. *boryana* (Mitford) Mak
Phyllostachys nigra f. *muchisasa* (J. Houz.) R
Phyllostachys nigra f. *punctata* (Bean) Schell
Phyllostachys nigra var. *punctata* Bean
Phyllostachys puberula var. *boryana* (Mitford)
Phyllostachys puberula var. *muchisasa* J. Hoi
Phyllostachys puberula var. *nigra* (Lodd. ex L)
Phyllostachys puberula f. *nigropunctata* Maki

Common Name: black bamboo

Questionnaire :	current 20090513	Assessor:	Patti Clifford	Designation: H(HPWRA)
Status:	Assessor Approved	Data Entry Person:	Patti Clifford	WRA Score 12
101	Is the species highly domesticated?		y=-3, n=0	n
102	Has the species become naturalized where grown?		y=1, n=-1	
103	Does the species have weedy races?		y=1, n=-1	
201	Species suited to tropical or subtropical climate(s) - If island is primarily wet habitat, then substitute "wet tropical" for "tropical or subtropical"		(0-low; 1-intermediate; 2-high) (See Appendix 2)	Intermediate
202	Quality of climate match data		(0-low; 1-intermediate; 2-high) (See Appendix 2)	Intermediate
203	Broad climate suitability (environmental versatility)		y=1, n=0	n
204	Native or naturalized in regions with tropical or subtropical climates		y=1, n=0	y
205	Does the species have a history of repeated introductions outside its natural range?		y=-2, ?=-1, n=0	y
301	Naturalized beyond native range		y = 1*multiplier (see Appendix 2), n= question 205	y
302	Garden/amenity/disturbance weed		n=0, y = 1*multiplier (see Appendix 2)	n
303	Agricultural/forestry/horticultural weed		n=0, y = 2*multiplier (see Appendix 2)	n
304	Environmental weed		n=0, y = 2*multiplier (see Appendix 2)	y
305	Congeneric weed		n=0, y = 1*multiplier (see Appendix 2)	y
401	Produces spines, thorns or burrs		y=1, n=0	n
402	Allelopathic		y=1, n=0	
403	Parasitic		y=1, n=0	n
404	Unpalatable to grazing animals		y=1, n=-1	n
405	Toxic to animals		y=1, n=0	n
406	Host for recognized pests and pathogens		y=1, n=0	

407	Causes allergies or is otherwise toxic to humans	y=1, n=0	n
408	Creates a fire hazard in natural ecosystems	y=1, n=0	
409	Is a shade tolerant plant at some stage of its life cycle	y=1, n=0	y
410	Tolerates a wide range of soil conditions (or limestone conditions if not a volcanic island)	y=1, n=0	y
411	Climbing or smothering growth habit	y=1, n=0	n
412	Forms dense thickets	y=1, n=0	y
501	Aquatic	y=5, n=0	n
502	Grass	y=1, n=0	y
503	Nitrogen fixing woody plant	y=1, n=0	n
504	Geophyte (herbaceous with underground storage organs -- bulbs, corms, or tubers)	y=1, n=0	n
601	Evidence of substantial reproductive failure in native habitat	y=1, n=0	n
602	Produces viable seed	y=1, n=-1	
603	Hybridizes naturally	y=1, n=-1	
604	Self-compatible or apomictic	y=1, n=-1	
605	Requires specialist pollinators	y=-1, n=0	n
606	Reproduction by vegetative fragmentation	y=1, n=-1	
607	Minimum generative time (years)	1 year = 1, 2 or 3 years = 0, 4+ years = -1	
701	Propagules likely to be dispersed unintentionally (plants growing in heavily trafficked areas)	y=1, n=-1	y
702	Propagules dispersed intentionally by people	y=1, n=-1	y
703	Propagules likely to disperse as a produce contaminant	y=1, n=-1	n
704	Propagules adapted to wind dispersal	y=1, n=-1	
705	Propagules water dispersed	y=1, n=-1	y
706	Propagules bird dispersed	y=1, n=-1	
707	Propagules dispersed by other animals (externally)	y=1, n=-1	n
708	Propagules survive passage through the gut	y=1, n=-1	
801	Prolific seed production (>1000/m2)	y=1, n=-1	
802	Evidence that a persistent propagule bank is formed (>1 yr)	y=1, n=-1	
803	Well controlled by herbicides	y=-1, n=1	
804	Tolerates, or benefits from, mutilation, cultivation, or fire	y=1, n=-1	y
805	Effective natural enemies present locally (e.g. introduced biocontrol agents)	y=-1, n=1	

Designation: H(HPWRA)

WRA Score 12

Supporting Data:

101	2011. WRA Specialist. Personal Communication.	[Is the species highly domesticated? No] No evidence of domestication that reduces invasiveness.
102	2011. WRA Specialist. Personal Communication.	[Has the species become naturalized where grown? N/A]
103	2011. WRA Specialist. Personal Communication.	[Does the species have weedy races? N/A]
201	2011. USDA, ARS, National Genetic Resources Program. Germplasm Resources Information Network (GRIN) [Online Database Index]. National Germplasm Resources Laboratory, Beltsville, Maryland. http://www.ars-grin.gov/cgi-bin/npgs/html/index.pl	[Species suited to tropical or subtropical climate(s) - If island is primarily wet habitat, then substitute "wet tropical" for "tropical or subtropical"? Intermediate] Native range: Japan; China [grown in tropical regions]
202	2011. USDA, ARS, National Genetic Resources Program. Germplasm Resources Information Network (GRIN) [Online Database Index]. National Germplasm Resources Laboratory, Beltsville, Maryland. http://www.ars-grin.gov/cgi-bin/npgs/html/index.pl	[Quality of climate match data? Intermediate] Native range: Japan; China. [grown in tropical regions]
203	2006. Wu, Z. Y., P. H. Raven & D. Y. Hong, eds.. Flora of China. Vol. 22 (Poaceae). Science Press & Missouri Botanical Garden Press, Beijing & St. Louis http://flora.huh.harvard.edu/china/mss/volume22/index.htm	[Broad climate suitability (environmental versatility)? No] Open forests on slopes and in valleys; 1100–1200 m. S Hunan, widely cultivated elsewhere in China [introduced in many other countries].
203	2011. Dave's Garden. PlantFiles: black bamboo - <i>Phyllostachys nigra</i> . Dave's Garden, http://davesgarden.com/guides/pf/go/1793/	[Broad climate suitability (environmental versatility)? No] Hardiness: USDA Zone 7a: to -17.7 °C (0 °F) USDA Zone 7b: to -14.9 °C (5 °F) USDA Zone 8a: to -12.2 °C (10 °F) USDA Zone 8b: to -9.4 °C (15 °F) USDA Zone 9a: to -6.6 °C (20 °F) USDA Zone 9b: to -3.8 °C (25 °F) USDA Zone 10a: to -1.1 °C (30 °F) USDA Zone 10b: to 1.7 °C (35 °F)
203	2011. Lemke, C.. Cal's plant of the month - <i>Phyllostachys nigra</i> . University of Oklahoma Department of Botany & Microbiology, http://www.plantoftheweek.org/week461.shtml	[Broad climate suitability (environmental versatility)? No] USDA Hardiness zones: 8-10.
204	1992. Loope, L.L./Nagata, R.J./Medeiros, A.C.. Alien plants in Haleakala National Park in: Alien plant invasions in native ecosystems of Hawaii. Cooperative National Park Resources Studies Unit, University of Hawaii, Honolulu http://www.hear.org/books/api	[Native or naturalized in regions with tropical or subtropical climates? Yes] "Black bamboo, <i>Phyllostachys nigra</i> This large bamboo occurs in dense, monospecific stands below 2,000 ft (610 m) in the Kipahulu District. We are unaware of the reproductive biology of this species, although it may, like many bamboos that flower at intervals of a century or longer, eventually flower, set seed, and die synchronously (Janzen 1976). Up to now spread has presumably been vegetative. Since no clones on East Maui are known to extend above 2,000 ft (610 m), this species may not threaten forests above that level. Alternatively, the species may have the potential for spreading but is slowed by its purely vegetative reproduction. Its status should be carefully monitored since bamboo thickets result in elimination of virtually all native plant and animal species. Bamboo is one of the most difficult alien plant species to control, even locally."
204	1999. Wagner, W.L./Herbst, D.R./Sohmer, S.H.. Manual of the flowering plants of Hawaii. Revised edition.. University of Hawai'i Press and Bishop Museum Press, Honolulu, HI.	[Native or naturalized in regions with tropical or subtropical climates? Yes] <i>Phyllostachys nigra</i> var. <i>henionis</i> (Mitford) Stapf ex Rendle is naturalized in Hawaii on Oahu, Molokai and Maui.
205	1999. Wagner, W.L./Herbst, D.R./Sohmer, S.H.. Manual of the flowering plants of Hawaii. Revised edition.. University of Hawai'i Press and Bishop Museum Press, Honolulu, HI.	[Does the species have a history of repeated introductions outside its natural range? Yes] Widely cultivated.

205	2006. Wu, Z. Y., P. H. Raven & D. Y. Hong, eds.. Flora of China. Vol. 22 (Poaceae). Science Press & Missouri Botanical Garden Press, Beijing & St. Louis http://flora.huh.harvard.edu/china/mss/volume22/index.htm	[Does the species have a history of repeated introductions outside its natural range? Yes] This species has a very extensive synonymy, as is often the case with such popular garden plants. At the time of writing, W. D. Clayton lists a total of 79 synonyms in his grass synonymy database.
205	2011. Bamboo Inspiration. Black bamboo. Bambooinspiration.com, http://www.bambooinspiration.com/black-bamboo.html	[Does the species have a history of repeated introductions outside its natural range? Yes] Black bamboo, <i>Phyllostachys nigra</i> , is one of the more popular bamboo species, if not the most popular, of ornamental bamboo species around the world.
301	1992. Loope, L.L./Nagata, R.J./Medeiros, A.C.. Alien plants in Haleakala National Park in: Alien plant invasions in native ecosystems of Hawaii. Cooperative National Park Resources Studies Unit, University of Hawaii, Honolulu http://www.hear.org/books/api	[Naturalized beyond native range? Yes] "Black bamboo, <i>Phyllostachys nigra</i> This large bamboo occurs in dense, monospecific stands below 2,000 ft (610 m) in the Kipahulu District. We are unaware of the reproductive biology of this species, although it may, like many bamboos that flower at intervals of a century or longer, eventually flower, set seed, and die synchronously (Janzen 1976). Up to now spread has presumably been vegetative. Since no clones on East Maui are known to extend above 2,000 ft (610 m), this species may not threaten forests above that level. Alternatively, the species may have the potential for spreading but is slowed by its purely vegetative reproduction. Its status should be carefully monitored since bamboo thickets result in elimination of virtually all native plant and animal species. Bamboo is one of the most difficult alien plant species to control, even locally."
301	1999. Wagner, W.L./Herbst, D.R./Sohmer, S.H.. Manual of the flowering plants of Hawaii. Revised edition.. University of Hawai'i Press and Bishop Museum Press, Honolulu, HI.	[Naturalized beyond native range? Yes] Naturalized on Oahu, Molokai, and Maui - Hawaii, USA.
301	2005. Groves, R.H./Boden, R./Lonsdale, W.M.. Jumping the garden fence: invasive garden plants in Australia and their environmental and agricultural impacts. CSIRO report prepared for WWF Australia. WWF-Australia, Sydney www.wwf.org.au/publications/jumping	[Naturalized beyond native range? Yes] Naturalized in New South Wales.
302	2010. Waitakere City Council. Invasive or Environmental Weeds of Waitakere. http://www.waitakere.govt.nz/CnlSer/pw/plantweed/pdf/weedlist-env-inv.pdf	[Garden/amenity/disturbance weed? no] The Waitakere City Council consider <i>Phyllostachys nigra</i> to be an invasive or environmental weed and recommend its removal from any location. [scored as an environmental weed]
302	2011. Tropical Biology Association. <i>Phyllostachys nigra</i> . http://www.tropical-biology.org/research/dip/species/Phyllostachys%20nigra.htm	[Garden/amenity/disturbance weed? no] Invasive in Tanzania. [scored as an environmental weed]
303	2007. Randall, R.P.. Global Compendium of Weeds - Index [Online Database]. http://www.hear.org/gcw/	[Agricultural/forestry/horticultural weed? No] No evidence.
304	2003. Motooka, P./Castro, L./Nelson, D./Nagai, G./Ching,L.. Weeds of Hawaii's Pastures and Natural Areas: An Identification and Management Guide. CTAHR, UH Manoa, Honolulu, HI http://www.ctahr.hawaii.edu/invweed/weedsHi.html	[Environmental weed? Yes] Displaces native vegetation; virtually no other plants grow within black bamboo groves.
304	2010. Waitakere City Council. Invasive or Environmental Weeds of Waitakere. http://www.waitakere.govt.nz/CnlSer/pw/plantweed/pdf/weedlist-env-inv.pdf	[Environmental weed? Yes] The Waitakere City Council consider <i>Phyllostachys nigra</i> to be an invasive or environmental weed and recommend its removal from any location.
304	2011. Tropical Biology Association. <i>Phyllostachys nigra</i> . http://www.tropical-biology.org/research/dip/species/Phyllostachys%20nigra.htm	[Environmental weed? Yes] Invasive in Tanzania.

305	2009. Gucker. <i>Phyllostachys aurea</i> . In: Fire Effects System [online]. U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station, Fire Sciences Laboratory, http://www.fs.fed.us/database/feis/plants/graminoid/phyaur/all.html	[Congeneric weed? Yes] "Although golden bamboo is generally found near planting sites, in some areas there has been extensive spread that has negatively impacted native plant communities. In Texas, golden bamboo has been widely cultivated, and in Grayson and Tarrant counties, extensive stands are spreading on sandy soils. In a study of riparian areas in Georgia, researchers sampled 15 watersheds in the west-central part of the state. Golden bamboo occurred in just 1 urban watershed. Plants were found in a "natural" area adjacent to a city park but away from mowed or high foot traffic areas. Although golden bamboo was not reported in a 1991 survey of Cumberland Island, Georgia, researchers estimated that it occupied an area of 31,440 feet ² (2,921 m ²) in surveys conducted in 2003 and 2004. Nonnative taxa were of secondary importance in the 1991 survey, which focused on rare native taxa. In 2003 and 2004, golden bamboo did not occur in "natural areas", but researchers noted seedlings or new clones at the periphery of established clumps. In a 1980 survey of southeastern National Park Service officials, golden bamboo was noted in South Carolina's Congaree Swamp National Monument and Cowpens National Battlefield. In Hawaii, golden bamboo was first reported in native plant communities in 1992, although it has been cultivated in the state for a "long time". Researchers found a clone covering 1 acre (0.4 ha) of a steep hillside in Kailua, Oahu, Hawaii. The clone originated from a roadside ornamental planting and forms a near monoculture on the hillside."
401	2006. Wu, Z. Y., P. H. Raven & D. Y. Hong, eds.. Flora of China. Vol. 22 (Poaceae). Science Press & Missouri Botanical Garden Press, Beijing & St. Louis http://flora.huh.harvard.edu/china/mss/volume22/index.htm	[Produces spines, thorns or burrs? No] "Culms 4–8(–10) m, to 5 cm or more in diam.; internodes green or gradually developing purple-brown to black spots or turning uniform purple-brown or black, 25–30 cm, initially white powdery, densely puberulent; wall ca. 3 mm thick; nodal ridge slightly more prominent than or equaling sheath scar; sheath scar initially brown hairy on margin. Culm sheaths red-brown, sometimes tinged with green, unmarked or densely extremely minutely and imperceptibly dark brown spotted, spots aggregating into a distal dark brown patch, thinly white powdery, brown strigose; auricles and oral setae well developed, purple-black; ligule purple, arcuate to acutely so, long ciliate; blade erect or gradually deflexed, green or tinged with purple on both sides, triangular to triangular-lanceolate, navicular, ± wavy. Leaves 2 or 3 per ultimate branch; auricles weak or absent; oral setae deciduous; ligule slightly exerted; blade thin, 7–10 × ca. 1.2 cm. Flowering branchlets shortly spicate, 3.5–5 cm, scaly bracts 4–8. Spathes 4–6, glabrous or puberulous; auricles absent; oral setae few or absent; blade usually subulate or ovate-lanceolate, small. Pseudospikelets 1–3 per spathe. Spikelets lanceolate, 1.5–2 cm; florets 2 or 3. Glumes (absent or) 1–3, abaxially ± distally pubescent; rachilla pubescent; lemma 1.2–1.5 cm, densely pubescent; palea shorter than lemma. Anthers ca. 8 mm. Stigmas 3. New shoots late Apr, fl. May."
402	2011. WRA Specialist. Personal Communication.	[Allelopathic? Unknown]
403	2006. Wu, Z. Y., P. H. Raven & D. Y. Hong, eds.. Flora of China. Vol. 22 (Poaceae). Science Press & Missouri Botanical Garden Press, Beijing & St. Louis http://flora.huh.harvard.edu/china/mss/volume22/index.htm	[Parasitic? No] Poaceae.
403	2010. Nickrent, D.. The parasitic plant connection. Department of Plant Biology, Southern Illinois University, Carbondale http://www.parasiticplants.siu.edu/index.html	[Parasitic? No] Poaceae.
404	2003. Motooka, P./Castro, L./Nelson, D./Nagai, G./Ching,L.. Weeds of Hawaii's Pastures and Natural Areas: An Identification and Management Guide. CTAHR, UH Manoa, Honolulu, HI http://www.ctahr.hawaii.edu/invweed/weedsHi.htm	[Unpalatable to grazing animals? No] "Does not invade grazed land, because cattle will graze the invading bamboo shoots, but animals cannot clear established stands. Difficult to control. Heavy equipment subject to damage by bamboo stems piercing radiators and hoses"
405	2003. Motooka, P./Castro, L./Nelson, D./Nagai, G./Ching,L.. Weeds of Hawaii's Pastures and Natural Areas: An Identification and Management Guide. CTAHR, UH Manoa, Honolulu, HI http://www.ctahr.hawaii.edu/invweed/weedsHi.htm	[Toxic to animals? No] "Does not invade grazed land, because cattle will graze the invading bamboo shoots, but animals cannot clear established stands."
405	2011. Specialized Information Services, U.S. National Library of Medicine. TOXNET toxicology data network [online database]. National Institutes of Health, http://toxnet.nlm.nih.gov/	[Toxic to animals? No] No evidence of toxicity.

406	2011. WRA Specialist. Personal Communication.	[Host for recognized pests and pathogens? Unknown]
407	2011. National Center for Biotechnology Information. PubMed. U.S. National Library of Medicine, Bethesda, Maryland http://www.ncbi.nlm.nih.gov/	[Causes allergies or is otherwise toxic to humans? No] No evidence.
407	2011. Plants for a Future Database. Phyllostachys nigra - black bamboo. Plants for a Future Database [online], http://www.pfaf.org/user/Plant.aspx?LatinName=Phyllostachys+nigra	[Causes allergies or is otherwise toxic to humans? No] Stems are edible. "The leaves are antipyretic and diuretic. They are used internally in the treatment of fevers (especially infantile convulsions), vomiting and nosebleeds. The leaves are harvested during the growing season and dried for later use. The juice of the stems is antipyretic, antitussive, expectorant and sedative. It is taken internally in the treatment of lung infections with cough and phlegm. The sap is pressed from young stems in the summer and then dried for later use. The epidermis of the stem bark is antiemetic, depurative and sedative. It is used internally in the treatment of vomiting, nosebleeds, coughs etc. The epidermis is collected from young stems in the summer and is dried for later use. The root is astringent, antipyretic, diuretic and styptic. It has been used in the treatment of rabies. The roots are harvested in the winter and dried for later use."
407	2011. Specialized Information Services, U.S. National Library of Medicine. TOXNET toxicology data network [online database]. National Institutes of Health, http://toxnet.nlm.nih.gov/	[Causes allergies or is otherwise toxic to humans? No] No evidence.
408	2011. Smith, M.C. Predicting plant naturalizations in the Pacific Northwest: the fate of bamboos in the understory of coniferous forests. Washington State University,	[Creates a fire hazard in natural ecosystems?] According to Smith (2010) Bamboos in Asia, Africa, Australia and the Americas have the ability to change fire frequency, dead culms provide fuel for stand replacing fires, and green bamboo can provide a ladder for fire to reach the canopy.
408	2011. WRA Specialist. Personal Communication.	[Creates a fire hazard in natural ecosystems? Unknown]
409	2007. Tingwu, L./Wenyuan, D./Jinxuan, Z./Bei, L.J.L./Fude, Z. A study on site condition of Phyllostachys nigra stand of technology utilization. World Bamboo and Rattan. 04: http://en.cnki.com.cn/Article_en/CJFDTOTAL-ZTTX200704007.htm	[Is a shade tolerant plant at some stage of its life cycle? Yes]"The site condition of Phyllostachys nigra stand of technology utilization was investigated and studied in Dahe Township, Yunnan Province. The results were as follows: (1) The living bamboo density of Ph. nigra of technology utilization tended to increase from sunny slope to shady slope in different slope aspects. The bigger branching height and height mainly located on the semi-sunny and semi-shady slope aspect."
409	2011. Dave's Garden. PlantFiles: black bamboo - Phyllostachys nigra. Dave's Garden, http://davesgarden.com/guides/pf/go/1793/	[Is a shade tolerant plant at some stage of its life cycle?] Sun to partial shade.
409	2011. Lemke, C.. Cal's plant of the month - Phyllostachys nigra. University of Oklahoma Department of Botany & Microbiology, http://www.plantoftheweek.org/week461.shtml	[Is a shade tolerant plant at some stage of its life cycle?] Full sun to partial shade.
410	2007. Tingwu, L./Wenyuan, D./Jinxuan, Z./Bei, L.J.L./Fude, Z. A study on site condition of Phyllostachys nigra stand of technology utilization. World Bamboo and Rattan. 04: http://en.cnki.com.cn/Article_en/CJFDTOTAL-ZTTX200704007.htm	[Tolerates a wide range of soil conditions (or limestone conditions if not a volcanic island)? Yes] "The site condition of Phyllostachys nigra stand of technology utilization was investigated and studied in Dahe Township, Yunnan Province. The results were as follows: (1) The living bamboo density of Ph. nigra of technology utilization tended to increase from sunny slope to shady slope in different slope aspects. The bigger branching height and height mainly located on the semi-sunny and semi-shady slope aspect;(2) The living bamboo density of Ph. nigra stand of technology utilization tended to decrease with the increasing of soil depth, and the living bamboo density, average DBH and branching height tended to increase in different soils from sandy soils, light loam, medium loam and weight loam."
410	2011. Dave's Garden. PlantFiles: black bamboo - Phyllostachys nigra. Dave's Garden, http://davesgarden.com/guides/pf/go/1793/	[Tolerates a wide range of soil conditions (or limestone conditions if not a volcanic island)?] Soil pH requirements: 5.6 to 6.0 (acidic) 6.1 to 6.5 (mildly acidic)
410	2011. Plants for a Future Database. Phyllostachys nigra - black bamboo. Plants for a Future Database [online], http://www.pfaf.org/user/Plant.aspx?LatinName=Phyllostachys+nigra	[Tolerates a wide range of soil conditions (or limestone conditions if not a volcanic island)? Yes] The plant prefers light (sandy), medium (loamy) and heavy (clay) soils. The plant prefers acid, neutral and basic (alkaline) soils..It can grow in semi-shade (light woodland).It requires moist soil.

411	2006. Wu, Z. Y., P. H. Raven & D. Y. Hong, eds.. Flora of China. Vol. 22 (Poaceae). Science Press & Missouri Botanical Garden Press, Beijing & St. Louis http://flora.huh.harvard.edu/china/mss/volume22/index.htm	[Climbing or smothering growth habit? No] Poaceae.
412	2011. Tropical Biology Association. Phyllostachys nigra. http://www.tropical-biology.org/research/dip/species/Phyllostachys%20nigra.htm	[Forms dense thickets? Yes] Forms dense stands excluding other vegetation.
501	2006. Wu, Z. Y., P. H. Raven & D. Y. Hong, eds.. Flora of China. Vol. 22 (Poaceae). Science Press & Missouri Botanical Garden Press, Beijing & St. Louis http://flora.huh.harvard.edu/china/mss/volume22/index.htm	[Aquatic? No] Terrestrial; Poaceae.
502	2006. Wu, Z. Y., P. H. Raven & D. Y. Hong, eds.. Flora of China. Vol. 22 (Poaceae). Science Press & Missouri Botanical Garden Press, Beijing & St. Louis http://flora.huh.harvard.edu/china/mss/volume22/index.htm	[Grass? Yes] Poaceae.
503	2006. Wu, Z. Y., P. H. Raven & D. Y. Hong, eds.. Flora of China. Vol. 22 (Poaceae). Science Press & Missouri Botanical Garden Press, Beijing & St. Louis http://flora.huh.harvard.edu/china/mss/volume22/index.htm	[Nitrogen fixing woody plant? No] Poaceae. [not woody]
504	2006. Wu, Z. Y., P. H. Raven & D. Y. Hong, eds.. Flora of China. Vol. 22 (Poaceae). Science Press & Missouri Botanical Garden Press, Beijing & St. Louis http://flora.huh.harvard.edu/china/mss/volume22/index.htm	[Geophyte (herbaceous with underground storage organs -- bulbs, corms, or tubers)? No] Poaceae. [no underground storage organs]
601	2011. WRA Specialist. Personal Communication.	[Evidence of substantial reproductive failure in native habitat? No] No evidence.
602	2011. WRA Specialist. Personal Communication.	[Produces viable seed?] Unknown
603	2011. WRA Specialist. Personal Communication.	[Hybridizes naturally? Unknown]
604	2011. WRA Specialist. Personal Communication.	[Self-compatible or apomictic?] Unknown.
605	2011. Tropical Biology Association. Phyllostachys nigra. http://www.tropical-biology.org/research/dip/species/Phyllostachys%20nigra.htm	[Requires specialist pollinators? No] Wind-pollinated.
606	2011. Dave's Garden. PlantFiles: black bamboo - Phyllostachys nigra. Dave's Garden, http://davesgarden.com/guides/pf/go/1793/	[Reproduction by vegetative fragmentation?] Propagate by divisions.
606	2011. Lemke, C.. Cal's plant of the month - Phyllostachys nigra. University of Oklahoma Department of Botany & Microbiology, http://www.plantoftheweek.org/week461.shtml	[Reproduction by vegetative fragmentation?] Propagated by divisions of the rhizomes. [possibly]
701	2011. Tropical Biology Association. Phyllostachys nigra. http://www.tropical-biology.org/research/dip/species/Phyllostachys%20nigra.htm	[Propagules likely to be dispersed unintentionally (plants growing in heavily trafficked areas)? Yes] Spreads vegetatively by rhizomes. Introduced by humans for ornamental purposes and spread further via garden rubbish.
702	2006. Wu, Z. Y., P. H. Raven & D. Y. Hong, eds.. Flora of China. Vol. 22 (Poaceae). Science Press & Missouri Botanical Garden Press, Beijing & St. Louis http://flora.huh.harvard.edu/china/mss/volume22/index.htm	[Propagules dispersed intentionally by people? Yes] This species has a very extensive synonymy, as is often the case with such popular garden plants. At the time of writing, W. D. Clayton lists a total of 79 synonyms in his grass synonymy database.

702	2011. Tropical Biology Association. <i>Phyllostachys nigra</i> . http://www.tropical-biology.org/research/dip/species/Phyllostachys%20nigra.htm	[Propagules dispersed intentionally by people? Yes] Spreads vegetatively by rhizomes. Introduced by humans for ornamental purposes and spread further via garden rubbish.
703	2011. WRA Specialist. Personal Communication.	[Propagules likely to disperse as a produce contaminant? No] No evidence.
704	2011. WRA Specialist. Personal Communication.	[Propagules adapted to wind dispersal? Unknown.]
705	2007. Tingwu, L./Wenyuan, D./Jinxuan, Z./Bei, L.J.L./Fude, Z.. A study on site condition of <i>Phyllostachys nigra</i> stand of technology utilization. <i>World Bamboo and Rattan</i> . 04: http://en.cnki.com.cn/Article_en/CJFDTOTAL-ZTTX200704007.htm	[Propagules water dispersed? Yes.] "The site condition of <i>Phyllostachys nigra</i> stand of technology utilization was investigated and studied in Dahe Township, Yunnan Province. The results were as follows: (1) The living bamboo density of <i>Ph. nigra</i> of technology utilization tended to increase from sunny slope to shady slope in different slope aspects. The bigger branching height and height mainly located on the semi-sunny and semi-shady slope aspect;(2) The living bamboo density of <i>Ph. nigra</i> stand of technology utilization tended to decrease with the increasing of soil depth, and the living bamboo density, average DBH and branching height tended to increase in different soils from sandy soils, light loam, medium loam and weight loam;(3) <i>Ph. nigra</i> stand of technology utilization established along village, rivers, roads and farmland were higher in living bamboo density, average DBH, branching height and full height of ramet than those established on forest land." [found along waterway]
705	2011. Plants for a Future Database. <i>Phyllostachys nigra</i> - black bamboo. Plants for a Future Database [online], http://www.pfaf.org/user/Plant.aspx?LatinName=Phyllostachys+nigra	[Propagules water dispersed?] Fertile and moist places, also by streams.
706	1999. Wagner, W.L./Herbst, D.R./Sohmer, S.H.. <i>Manual of the flowering plants of Hawaii</i> . Revised edition.. University of Hawai'i Press and Bishop Museum Press, Honolulu, HI.	[Propagules bird dispersed? No] Caryopsis.
707	1999. Wagner, W.L./Herbst, D.R./Sohmer, S.H.. <i>Manual of the flowering plants of Hawaii</i> . Revised edition.. University of Hawai'i Press and Bishop Museum Press, Honolulu, HI.	[Propagules dispersed by other animals (externally)? No] Caryopsis. [no means of external attachment]
708	2011. WRA Specialist. Personal Communication.	[Propagules survive passage through the gut? Unknown]
801	2011. WRA Specialist. Personal Communication.	[Prolific seed production (>1000/m ²)? Unknown]
802	2011. WRA Specialist. Personal Communication.	[Evidence that a persistent propagule bank is formed (>1 yr)? Unknown]
803	2003. Motoooka, P./Castro, L./Nelson, D./Nagai, G./Ching,L.. <i>Weeds of Hawaii's Pastures and Natural Areas: An Identification and Management Guide</i> . CTAHR, UH Manoa, Honolulu, HI http://www.ctahr.hawaii.edu/invweed/weedsHi.html	[Well controlled by herbicides?] "Plant is sensitive to hexazinone and imazapyr and moderately sensitive to glyphosate. Foliar application difficult on tall plants. Most effective treatment requires mechanical clearing followed by herbicide treatment of re-sprouts. J. De Frank (Univ. Hawaii) recommended glyphosate plus fluazifop or imazapyr. Basal stem application of imazapyr looks promising" "Difficult to control. Heavy equipment subject to damage by bamboo stems piercing radiators and hoses"
803	2011. Tropical Biology Association. <i>Phyllostachys nigra</i> . http://www.tropical-biology.org/research/dip/species/Phyllostachys%20nigra.htm	[Well controlled by herbicides?] Chemical: Foliar application is difficult for tall plants. Mechanical clearing is recommended, followed by herbicide treatment of re-sprouts. Basal stem application of imazapyr has been effective, the plant is also sensitive to hexazinone and moderately sensitive to glyphosate. A regional council in New Zealand recommends the following methods: Amitrole as an overall spray at 2 litres Amitrole per 100 litres water, preferably with a wetting agent such as Penetrant. Glyphosate plus Penetrant. Apply as handgun (2 litres Glyphosate + 200 mls Penetrant/100 litres water) or knapsack (100 mls Glyphosate + 20 mls Penetrant/10 litres water). Galant at 300 ml / 10 litres water plus Crop Oil at 100 ml / 10 litres.
804	2011. Bamboo Inspiration. Black bamboo. Bambooinspiration.com, http://www.bambooinspiration.com/black-bamboo.html	[Tolerates, or benefits from, mutilation, cultivation, or fire? Yes] Black bamboos can get a dense canopy of branches with foliage with some plants being prone to an arching habit. However, you can prune this species easily enough if you want to make a thicker hedging type of growth and/or prevent any arching habits where they are not wanted.

