

Taxon: <i>Thysanolaena latifolia</i> (Roxb. ex Hornem.) Honda	Family: Poaceae
Common Name(s): Asian broom grass bamboo grass bouquet grass broom grass tiger grass	Synonym(s): <i>Agrostis maxima</i> Roxb. <i>Melica latifolia</i> Roxb. ex Hornem. <i>Thysanolaena agrostis</i> Nees <i>Thysanolaena maxima</i> (Roxb.) Kuntze

Assessor: Chuck Chimera	Status: Approved	End Date: 17 Jul 1924
WRA Score: 12.0	Designation: H(HPWRA)	Rating: High Risk

Keywords: Perennial Grass, Naturalized, Fodder, Ornamental, Wind & Water Dispersed

Qsn #	Question	Answer Option	Answer
101	Is the species highly domesticated?	y = -3, n = 0	n
102	Has the species become naturalized where grown?		
103	Does the species have weedy races?		
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)	High
202	Quality of climate match data	0 = low, 1 = intermediate, 2 = high (see Appendix 2)	High
203	Broad climate suitability (environmental versatility)	y = 1, n = 0	y
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		
303	Agricultural/forestry/horticultural weed		
304	Environmental weed	y = 2*multiplier (see Appendix 2), n = 0	n
305	Congeneric weed	y = 1*multiplier (see Appendix 2), n = 0	n
401	Produces spines, thorns or burrs	y = 1, n = 0	n
402	Allelopathic		
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	y
407	Causes allergies or is otherwise toxic to humans	y = 1, n = 0	n

Qsn #	Question	Answer Option	Answer
408	Creates a fire hazard in natural ecosystems		
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		
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	y
603	Hybridizes naturally		
604	Self-compatible or apomictic		
605	Requires specialist pollinators	y = -1, n = 0	n
606	Reproduction by vegetative fragmentation		
607	Minimum generative time (years)	1 year = 1, 2 or 3 years = 0, 4+ years = -1	2
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		
704	Propagules adapted to wind dispersal	y = 1, n = -1	y
705	Propagules water dispersed	y = 1, n = -1	y
706	Propagules bird dispersed	y = 1, n = -1	n
707	Propagules dispersed by other animals (externally)		
708	Propagules survive passage through the gut		
801	Prolific seed production (>1000/m2)		
802	Evidence that a persistent propagule bank is formed (>1 yr)		
803	Well controlled by herbicides		
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)		

Supporting Data:

Qsn #	Question	Answer
101	Is the species highly domesticated?	n
	Source(s)	Notes
	Wu, Z.Y., Raven, P.H. & Hong, D.Y. (eds.). (2006). Flora of China. Vol. 22 (Poaceae). Science Press, Beijing, and Missouri Botanical Garden Press, St. Louis	[Not domesticated] "Hillsides and valleys, among rocks, in thickets, forest margins, open grasslands, river banks. Guangdong, Guangxi, Guizhou, Hainan, Taiwan, Yunnan [Bangladesh, Bhutan, Cambodia, India, Indonesia, Laos, Malaysia, Myanmar, Nepal, New Guinea, Philippines, Sri Lanka, Thailand, Vietnam; Indian Ocean Islands]. This tall, broad-leaved grass is easily recognized by its large, purplish brown panicle of tiny spikelets, which fall entire with the pedicel attached. It provides a source of fiber, the heads can be used as brooms, and it is also planted as an ornamental."

102	Has the species become naturalized where grown?	
	Source(s)	Notes
	WRA Specialist. (2024). Personal Communication	NA

103	Does the species have weedy races?	
	Source(s)	Notes
	WRA Specialist. (2024). Personal Communication	NA

201	Species suited to tropical or subtropical climate(s) - If island is primarily wet habitat, then substitute "wet tropical" for "tropical or subtropical"	High
	Source(s)	Notes
	Wu, Z.Y., Raven, P.H. & Hong, D.Y. (eds.). (2006). Flora of China. Vol. 22 (Poaceae). Science Press, Beijing, and Missouri Botanical Garden Press, St. Louis	"Hillsides and valleys, among rocks, in thickets, forest margins, open grasslands, river banks. Guangdong, Guangxi, Guizhou, Hainan, Taiwan, Yunnan [Bangladesh, Bhutan, Cambodia, India, Indonesia, Laos, Malaysia, Myanmar, Nepal, New Guinea, Philippines, Sri Lanka, Thailand, Vietnam; Indian Ocean Islands]."

202	Quality of climate match data	High
	Source(s)	Notes
	Wu, Z.Y., Raven, P.H. & Hong, D.Y. (eds.). (2006). Flora of China. Vol. 22 (Poaceae). Science Press, Beijing, and Missouri Botanical Garden Press, St. Louis	"Hillsides and valleys, among rocks, in thickets, forest margins, open grasslands, river banks. Guangdong, Guangxi, Guizhou, Hainan, Taiwan, Yunnan [Bangladesh, Bhutan, Cambodia, India, Indonesia, Laos, Malaysia, Myanmar, Nepal, New Guinea, Philippines, Sri Lanka, Thailand, Vietnam; Indian Ocean Islands]."

Qsn #	Question	Answer
203	Broad climate suitability (environmental versatility)	y
	Source(s)	Notes
	USDA, Agricultural Research Service, National Plant Germplasm System. (2024). Germplasm Resources Information Network (GRIN-Taxonomy). National Germplasm Resources Laboratory, Beltsville, Maryland. https://npgsweb.ars-grin.gov/gringlobal/taxon/taxonomysearch . [Accessed 15 Jul 2024]	[Occurs in temperate and tropical climates] "Native Asia-Temperate CHINA: China (s.) EASTERN ASIA: Japan, Taiwan Asia-Tropical INDIAN SUBCONTINENT: India, Sri Lanka, Nepal, Pakistan (n.) INDO-CHINA: Myanmar, Thailand MALESIA: Malaysia (Malaya)"

Qsn #	Question	Answer
204	Native or naturalized in regions with tropical or subtropical climates	y
	Source(s)	Notes
	Wu, Z.Y., Raven, P.H. & Hong, D.Y. (eds.). (2006). Flora of China. Vol. 22 (Poaceae). Science Press, Beijing, and Missouri Botanical Garden Press, St. Louis	"Hillsides and valleys, among rocks, in thickets, forest margins, open grasslands, river banks. Guangdong, Guangxi, Guizhou, Hainan, Taiwan, Yunnan [Bangladesh, Bhutan, Cambodia, India, Indonesia, Laos, Malaysia, Myanmar, Nepal, New Guinea, Philippines, Sri Lanka, Thailand, Vietnam; Indian Ocean Islands]."
	Frohlich, D. & Lau, A. (2014). New plant records for the Hawaiian Islands 2012-2013. Bishop Museum Occasional Papers 115: 7-17	[Oahu, Hawaiian Islands] "Material examined. O'AHU: Lā'ie Falls Trail, 2 aug 2013, K. Kawelo US Army 325."

Qsn #	Question	Answer
205	Does the species have a history of repeated introductions outside its natural range?	y
	Source(s)	Notes
	Medico, J. M. L., Rua, G. H., Bonasora, M. G., & Vega, A. S. (2018). Floral reversion and first record of pseudovivipary in some species of Poaceae. <i>Adansonia</i> , 40(1), 59-66	" <i>Thysanolaena latifolia</i> (Panicoidae: Thysanolaeneae) is native from India and introduced as an ornamental in the Caribbean, El Salvador, and United States (Davidse 2003), and sporadically cultivated in South America (Argentina and Brazil) (Rúgolo de Agrasar & Puglia 2004)."

Qsn #	Question	Answer
301	Naturalized beyond native range	y
	Source(s)	Notes
	Keng, H., Chin, S.C. & Tan, H.T.W. (1998). The Concise Flora of Singapore: Monocotyledons, Volume 2. Singapore University Press, Singapore	"Distributed from India to China and southwards to peninsular Malaysia where it is usually found on the hills above 300 m; probably introduced into Singapore; now found in cultivation, as remnants of cultivation and naturalized, often on hill slopes and in rocky places; Bukit Timah (Hj. Mohd. Amin MS 1192)."
	Randall, R.P. (2017). A Global Compendium of Weeds. 3rd Edition. Perth, Western Australia. R.P. Randall	"References: Singapore-N-196, United States of America-N-101, Singapore-N-1290, La Reunion-I-1321, south and southeast Asia-A-1408, Brazil-N-1597, Gambia-N-1796, India-I-1826, Singapore-N-1839, Democratic Republic of the Congo-W-1977, Malaysia-W-1977, Singapore-W-1977."

Qsn #	Question	Answer
	Murphy, M., Yogi, D. & Faccenda, K. (2024). BIISC Plant Pono Specialist - Invasive Plant Prevention & UH Botany. personal communication. 12 July	[Hawaii Island] "A patch cultivated at the Hilo Arboretum has been there for over 15 years, but I don't know when it was planted. I've never noticed it in nursery surveys. However, numerous businesses sell it online. A community member noticed various clumps of grass growing along a river alongside his house. Thankfully, he posted it to iNaturalist! We investigated and positively identified it as <i>Thysanolaena latifolia</i> . About 10 young clumps, 2 ft tall, were growing in rocky outcrops in the river. At the time, the river was low. I cannot imagine how it looks during the rainy season. Across the street and upstream, we noticed a few more clumps. Then, we drive a block up to follow the river. We likely found the cultivated source of the invasion also growing next to the river. It was huge, 25 feet tall, and flowering profusely. From our observations, it is spreading from this source downstream. It is in the beginning stages of invasion."
	Frohlich, D. & Lau, A. (2014). New plant records for the Hawaiian Islands 2012-2013. Bishop Museum Occasional Papers 115: 7-17	[Oahu] " <i>Thysanolaena latifolia</i> , an ornamental tropical grass with a bamboo-like habit, was first spotted on the Laie Trail in 2009, seemingly planted in an erosion-prone area along a popular hiking trail (J. Lau, pers. comm., 2013) in the years following, it has spread considerably from the original small, contained patches of cultivated culms, and has established itself in an area about 100 × 50 m. hundreds of mature plants and numerous seedlings and immature plants were seen in the area." ... "Material examined. O'AHU: Lā'ie Falls Trail, 2 aug 2013, K. Kawelo US Army 325."

302	Garden/amenity/disturbance weed	
	Source(s)	Notes
	Tang, Y., Cao, M., & Fu, X. (2006). Soil Seedbank in a Dipterocarp Rain Forest in Xishuangbanna, Southwest China. <i>Biotropica</i> : 38(3), 328-333	"The most dominant herb species was <i>Thysanolaena maxima</i> , a common weed species in the Asia-Pacific region, which occurs in recently disturbed and abandoned slash-and-burn areas. <i>T. maxima</i> seeds accounted for 54.6 percent of the total herb seeds in soil samples taken during the dry season and 42.5 percent taken in the rainy season. It was also the dominant species in the mixed seasonal rain forest and secondary forests following slash-and-burn in this area (Cao et al. 2000). No mature individuals of <i>T. maxima</i> were found in the dipterocarp rain forest during the study. The seeds may have come from adjacent secondary forests or roadside vegetation." [Synonym of <i>Thysanolaena latifolia</i>]
	Randall, R.P. (2017). <i>A Global Compendium of Weeds</i> . 3rd Edition. Perth, Western Australia. R.P. Randall	[Cited as a weed of unspecified impacts] "References: Singapore-N-196, United States of America-N-101, Singapore-N-1290, La Reunion-I-1321, south and southeast Asia-A-1408, Brazil-N-1597, Gambia-N-1796, India-I-1826, Singapore-N-1839, Democratic Republic of the Congo-W-1977, Malaysia-W-1977, Singapore-W-1977."

303	Agricultural/forestry/horticultural weed	
	Source(s)	Notes
	van Keer, K., & Turkelboom, F. (1995). Soil conservation and weed control: Friends or foes?. <i>ILEIA Newsletter</i> , 11 (3), 14	[Invades fallow fields] "Grasses, such as <i>Imperata cylindrica</i> , <i>Thysanolaena latifolia</i> and <i>Microstegium vagans</i> are problematic during the fallow period and force farmers into deep (15–20 cm) hoe tillage when preparing their fields."
	Galinato, M.I., Moody, K. & Piggin, C.M. (1999). Upland Rice Weeds of South and Southeast Asia. International Rice Research Institute, Los Baños, Philippines	<i>Thysanolaena latifolia</i> listed as a weed or rice in Thailand. <i>Thysanolaena maxima</i> (Synonym of <i>Thysanolaena latifolia</i>) listed as a weed of rice in Thailand and India. [Impacts unspecified]

Qsn #	Question	Answer
304	Environmental weed	n
	Source(s)	Notes
	Randall, R.P. (2017). A Global Compendium of Weeds. 3rd Edition. Perth, Western Australia. R.P. Randall	No evidence
305	Congeneric weed	n
	Source(s)	Notes
	Quattrocchi, U. (2006). CRC World Dictionary of Grasses: Common Names, Scientific Names, Eponyms, Synonyms, and Etymology. CRC Press, Boca Raton, FL	"One species, Tropical Asia."
401	Produces spines, thorns or burrs	n
	Source(s)	Notes
	Wu, Z.Y., Raven, P.H. & Hong, D.Y. (eds.). (2006). Flora of China. Vol. 22 (Poaceae). Science Press, Beijing, and Missouri Botanical Garden Press, St. Louis	"Culms 1-3 m tall, hard, unbranched, often arching. Leaf sheaths smooth; leaf blades broadly lanceolate-oblong, leathery, up to 40 × 3-7 cm; ligule truncate, 1-2 mm. Panicle up to 60 cm, open or contracted; main branches 1-3 per node, pilose in axils, bare of spikelets in lower part, lowest branch up to 30 cm; pedicels ca. 2 mm. Spikelets 1.5-1.8 mm; glumes 1/5-1/4 spikelet length, ovate-lanceolate; lower lemma as long as spikelet; upper lemma slightly shorter than lower lemma, marginal hairs rigid, to 1 mm, spreading at maturity, apex slightly recurved. Anthers brown, 0.5-1 mm. Caryopsis oblong, ca. 0.5 mm."
402	Allelopathic	
	Source(s)	Notes
	WRA Specialist. (2024). Personal Communication	Unknown. No evidence found
403	Parasitic	n
	Source(s)	Notes
	Keng, H., Chin, S.C. & Tan, H.T.W. (1998). The Concise Flora of Singapore: Monocotyledons, Volume 2. Singapore University Press, Singapore	"Leafy, tufted, bamboo-like grass, 200-300 cm tall."
404	Unpalatable to grazing animals	n
	Source(s)	Notes
	Quattrocchi, U. (2006). CRC World Dictionary of Grasses: Common Names, Scientific Names, Eponyms, Synonyms, and Etymology. CRC Press, Boca Raton, FL	"tender leaves and stem tips used as fodder for cattle and buffaloes"

Qsn #	Question	Answer
405	Toxic to animals	n
	Source(s)	Notes
	Quattrocchi, U. (2006). CRC World Dictionary of Grasses: Common Names, Scientific Names, Eponyms, Synonyms, and Etymology. CRC Press, Boca Raton, FL	[No evidence] "tender leaves and stem tips used as fodder for cattle and buffaloes, roots used medicinally, decoction of roots used as mouthwash in fever"
	Quattrocchi, U. (2012). CRC World Dictionary of Medicinal and Poisonous Plants: Common Names, Scientific Names, Eponyms, Synonyms, and Etymology. CRC Press, Boca Raton, FL	[No evidence] "Tropical regions. Perennial, stout, very robust, solid culms solitary or clustered, strongly tufted, erect or slightly spreading, screening plant, tender leaves and stem tips used as fodder for cattle and buffaloes"

406	Host for recognized pests and pathogens	y
	Source(s)	Notes
	Wang, Y. Z., Wong, M. K. M., & Hyde, K. D. (2000). Ommatomyces, with one new species and one new combination. Fungal Diversity 4: 125-131	"A new species of Ommatomyces is described from senescent culms of Pennisetum purpureum and Thysanolaena maxima collected in Hong Kong. Didymosphaeria pardalina may be an earlier name for Ommatomyces coronatus, however there are several differences between this species and O. coronatus. Until further collections are made we maintain O. coronatus and combine Didymosphaeria pardalina as a third species of Ommatomyces. One of the most important characters of Ommatomyces is the short lacerate germ slits that occur at each end of ascospore and separates it from Cainia species."
	Bhilabutra, W., McKenzie, E. H. C., Hyde, K. D., & Lumyong, S. (2010). Fungi on the grasses, Thysanolaena latifolia and Saccharum spontaneum, in northern Thailand. Mycosphere, 1(4), 301-314	"Fungi associated with dead leaves and stems of Thysanolaena latifolia and Saccharum spontaneum were collected and identified at two sites. T. latifolia yielded 67 taxa, comprising 24 ascomycetes, 33 hyphomycetes, 9 coelomycetes and 1 myxomycete. The most common genera were Leptosphaeria, Niptera, Periconia, Septoria, Stachybotrys, Tetraploa, and Verticillium. S. spontaneum yielded 79 taxa comprising 32 ascomycetes, 37 hyphomycetes, and 10 coelomycetes. The most common genera were Cladosporium, Massarina, Periconia and Tetraploa. The highest species diversity index was recorded on S. spontaneum (H = 6.5), while T. latifolia was lower (H = 5.5). The mycota at the two sites differed significantly in species composition. Percentage similarity for T. latifolia between the two sites was 50.5% while for S. spontaneum it was 52.3 %. A comparison of the fungi occurring on these grasses with those on other monocotyledonous host from tropical regions is presented. Drumopama moonseti and Pycnothyriopsis sp. were reported as rare species in this study. Dendrographium thysanolaenae ined. is considered new to science."
	Ricaud, C., B.T. Egan, A.G. Gillaspie, & C.G. Hughes. (1989). Diseases of Sugarcane: Major Diseases. Elsevier, Amsterdam, Netherlands	"The importance of alternative hosts in the epidemiology of gumming disease has been the subject of thorough studies, mainly by Hughes (1939) in Australia and Orian (1941) in Mauritius. They successfully transmitted the pathogen by artificial inoculation to 12 species, including several grasses growing in cane fields. Natural infection of X. campestris pv vasculorum, or what has been claimed to be that pathogen, is restricted to the following six hosts besides sugarcane - maize, Zea mays L. (Orian, 1939, 1941; Hughes, 1939; Ricaud, 1976); three palms, Dictyosperma album (Bory) H. Wendi. & Drude ex Scheff. (Orian, 1941; Anon., 1982b), Roystonea regia (HBK) Cook (Orian, 1947; Anon., 1982a) and Areca catechu L. (Orian, 1948); the broom bamboo, Thysanolaena maxima (Roxb.) O. Kuntze (Orian, 1941; Antoine and Hayward, 1962; Hayward, 1962; Anon., 1982b); and Guatemala grass, Tripsacum fasciculatum Trin. ex Asch. (= T. laxum) (Hoarau, 1969). Very few cases of infection have been observed in these hosts, except in D. album, R. regia and T. maxima."

Qsn #	Question	Answer
	Fetalvero, E. G. (2012). Tiger grass, <i>Thysanolaena maxima</i> (Roxb.) O. Kuntze: A review of its biology and uses. Romblon State University, Odiongan, Romblon, Philippines	"While most studies about <i>T. maxima</i> made mention of its resistance to pest, Brunings et al. (2009) observed a leaf spot on tiger grass in 2006. The causal agent of the leaf spot was isolated and characterized morphologically and molecularly as <i>Exserohilum rostratum</i> (Dreschsier) Leonard & Suggs. This newly discovered disease could potentially have a dramatic effect on the aesthetic quality and salability of <i>T. maxima</i> as a landscape ornamental."

407	Causes allergies or is otherwise toxic to humans	n
	Source(s)	Notes
	Quattrocchi, U. (2006). CRC World Dictionary of Grasses: Common Names, Scientific Names, Eponyms, Synonyms, and Etymology. CRC Press, Boca Raton, FL	[No evidence] "tender leaves and stem tips used as fodder for cattle and buffaloes, roots used medicinally, decoction of roots used as mouthwash in fever"
	Quattrocchi, U. (2012). CRC World Dictionary of Medicinal and Poisonous Plants: Common Names, Scientific Names, Eponyms, Synonyms, and Etymology. CRC Press, Boca Raton, FL	[No evidence] "Used in Ayurveda. Whole plant hypotensive and spasmolytic. Leaf paste of <i>Litsea lancifolia</i> mixed with the leaf paste of <i>Thysanolaena maxima</i> and given in dysentery. Seeds powdered and given to women before childbirth to facilitate delivery, the flour used as abortifacient, contraceptive. Roots decoction used as mouthwash in fever; root extract taken against intestinal worms; root decoction to induce abortion and to treat mumps, ulcers, boils and abscesses; a paste applied to boils, carbuncles; root paste is believe to cause abortion. Veterinary medicine, roots applied in worm diseases of cattle. Magico-religious beliefs, protection, in case of witch attack; whole plant to ward off bad dreams."

408	Creates a fire hazard in natural ecosystems	
	Source(s)	Notes
	Fetalvero, E. G. (2012). Tiger grass, <i>Thysanolaena maxima</i> (Roxb.) O. Kuntze: A review of its biology and uses. Romblon State University, Odiongan, Romblon, Philippines	[Fire tolerance suggests plants could burn and recover from fire, or might be less prone to burning] "Following the series of tests in Bangladesh, tiger grass was characterized as seed or rhizome propagated, fast-growing, tolerant to pruning, high biomass production and drought and fire tolerant. The grass is also used as erosion control, green manure, fodder, firewood and cash crop."
	Sharma, S., Joshi, V., & Chhetri, R. K. (2014). Forest fire as a potential environmental threat in recent years in Sikkim, Eastern Himalayas, India. <i>Climate Change and Environmental Sustainability</i> , 2(1), 55-61	[Possibly. Intentional fires started to manage <i>Thysanolaena</i> grasslands] "During survey it is observed and confirmed from local sources that there are two reasons of forest fire in Sikkim, i.e., intentional and accidental. Intentional fires are set for various reasons, such as for management of grasslands dominated by <i>Thysanolaena maxima</i> (broom grass) and <i>Imperata cylindrica</i> (kunai grass) by local communities, trespassers to ward off wild animals, cattle herders called Gothwalas while making bonfires during winters, hunters, illegal timber mafias and by local farmers to keep wild animals, especially monkeys, porcupine, birds and deer that destroy the crops, away from agricultural fields. "

409	Is a shade tolerant plant at some stage of its life cycle	y
	Source(s)	Notes
	Quattrocchi, U. (2006). CRC World Dictionary of Grasses: Common Names, Scientific Names, Eponyms, Synonyms, and Etymology. CRC Press, Boca Raton, FL	"grows in high tufts on hillsides at the forest margins, near water, riverbanks, lightly shaded slopes, rocky slopes, shrubby hillsides, ravines, in shady and moist places, gravelly soils"
	Tropical Plants Database, Ken Fern. (2024). <i>Thysanolaena latifolia</i> . https://tropical.theferns.info/viewtropical.php?id=Thysanolaena+latifolia . [Accessed 16 Jul 2024]	"Valleys and lightly shaded slopes; ravines; river banks; forest margins; open grasslands. Usually in association with trees (often bamboo forests), solitarily or in small groups, not in full sunlight; at elevations from 150 - 2,000 metres [266, 310]."

Qsn #	Question	Answer
410	Tolerates a wide range of soil conditions (or limestone conditions if not a volcanic island)	y
	Source(s)	Notes
	Quattrocchi, U. (2006). CRC World Dictionary of Grasses: Common Names, Scientific Names, Eponyms, Synonyms, and Etymology. CRC Press, Boca Raton, FL	"grows in high tufts on hillsides at the forest margins, near water, riverbanks, lightly shaded slopes, rocky slopes, shrubby hillsides, ravines, in shady and moist places, gravelly soils"
	Fetalvero, E. G. (2012). Tiger grass, <i>Thysanolaena maxima</i> (Roxb.) O. Kuntze: A review of its biology and uses. Romblon State University, Odiongan, Romblon, Philippines	" <i>T. maxima</i> grows well in temperate and sub-tropical regions in wide ranging habitats like hillsides and valleys, among rocks, in thickets, forest margins, open grasslands, river banks and can be successfully cultivated in margins of rainfed and irrigated agriculture fields, degraded and wastelands, forests and along roads, footpaths (Bhuchar, 2008), on marginal lands, wastelands and jhum fallow on a wide range of soils varying from sandy loam to clay loam."
411	Climbing or smothering growth habit	n
	Source(s)	Notes
	Keng, H., Chin, S.C. & Tan, H.T.W. (1998). The Concise Flora of Singapore: Monocotyledons, Volume 2. Singapore University Press, Singapore	"Leafy, tufted, bamboo-like grass, 200-300 cm tall."
412	Forms dense thickets	
	Source(s)	Notes
	Fetalvero, E. G. (2012). Tiger grass, <i>Thysanolaena maxima</i> (Roxb.) O. Kuntze: A review of its biology and uses. Romblon State University, Odiongan, Romblon, Philippines	[Potentially] "in Queensland, the spread of <i>T. maxima</i> from cultivation is a potential threat to riparian vegetation and other damp or shady sites in tropical and sub-tropical regions. Although it is yet to appear in dense stands or cause serious problems, its large tufted growth habit and quick growth rate suggests it has the capacity to outcompete native species in the ground layer (Weed Watch Australia, 2011)."
501	Aquatic	n
	Source(s)	Notes
	Wu, Z.Y., Raven, P.H. & Hong, D.Y. (eds.). (2006). Flora of China. Vol. 22 (Poaceae). Science Press, Beijing, and Missouri Botanical Garden Press, St. Louis	[Terrestrial] "Hillsides and valleys, among rocks, in thickets, forest margins, open grasslands, river banks."
502	Grass	y
	Source(s)	Notes
	USDA, Agricultural Research Service, National Plant Germplasm System. (2024). Germplasm Resources Information Network (GRIN-Taxonomy). National Germplasm Resources Laboratory, Beltsville, Maryland. https://npgsweb.ars-grin.gov/gringlobal/taxon/taxonomysearch . [Accessed 12 Jul 2024]	"Genus: <i>Thysanolaena</i> Family: Poaceae (alt. Gramineae) Subfamily: Panicoideae Tribe: <i>Thysanolaeneae</i> "
503	Nitrogen fixing woody plant	n
	Source(s)	Notes

Qsn #	Question	Answer
	USDA, Agricultural Research Service, National Plant Germplasm System. (2024). Germplasm Resources Information Network (GRIN-Taxonomy). National Germplasm Resources Laboratory, Beltsville, Maryland. https://npgsweb.ars-grin.gov/gringlobal/taxon/taxonomysearch . [Accessed 12 Jul 2024]	"Genus: <i>Thysanolaena</i> Family: Poaceae (alt. Gramineae) Subfamily: Panicoideae Tribe: <i>Thysanolaeneae</i> "

504	Geophyte (herbaceous with underground storage organs -- bulbs, corms, or tubers)	n
	Source(s)	Notes
	Quattrocchi, U. (2006). CRC World Dictionary of Grasses: Common Names, Scientific Names, Eponyms, Synonyms, and Etymology. CRC Press, Boca Raton, FL	"Perennial, stout, very robust, solid culms solitary or clustered, strongly tufted, erect or slightly spreading, often arching, bamboo-like, leaf sheath tightly wrapped around the stem,"
	Tropical Plants Database, Ken Fern. (2024). <i>Thysanolaena latifolia</i> . https://tropical.theferns.info/viewtropical.php?id=Thysanolaena+latifolia . [Accessed 15 Jul 2024]	[Potentially broad elevation range] "Valleys and lightly shaded slopes; ravines; river banks; forest margins; open grasslands. Usually in association with trees (often bamboo forests), solitary or in small groups, not in full sunlight; at elevations from 150 - 2,000 metres"

601	Evidence of substantial reproductive failure in native habitat	n
	Source(s)	Notes
	Wu, Z.Y., Raven, P.H. & Hong, D.Y. (eds.). (2006). Flora of China. Vol. 22 (Poaceae). Science Press, Beijing, and Missouri Botanical Garden Press, St. Louis	[No evidence] "Hillsides and valleys, among rocks, in thickets, forest margins, open grasslands, river banks. Guangdong, Guangxi, Guizhou, Hainan, Taiwan, Yunnan [Bangladesh, Bhutan, Cambodia, India, Indonesia, Laos, Malaysia, Myanmar, Nepal, New Guinea, Philippines, Sri Lanka, Thailand, Vietnam; Indian Ocean Islands]."

602	Produces viable seed	y
	Source(s)	Notes
	Plants for a Future. (2024). <i>Thysanolaena latifolia</i> . https://pfaf.org/user/Plant.aspx?LatinName=Thysanolaena+latifolia . [Accessed 15 Jul 2024]	"Plant Propagation - Seed"
	Tang, Y., Cao, M., & Fu, X. (2006). Soil Seedbank in a Dipterocarp Rain Forest in Xishuangbanna, Southwest China. <i>Biotropica</i> : 38(3), 328-333	"The most dominant herb species was <i>Thysanolaena maxima</i> , a common weed species in the Asia-Pacific region, which occurs in recently disturbed and abandoned slash-and-burn areas. <i>T. maxima</i> seeds accounted for 54.6 percent of the total herb seeds in soil samples taken during the dry season and 42.5 percent taken in the rainy season. It was also the dominant species in the mixed seasonal rain forest and secondary forests following slash-and-burn in this area (Cao et al. 2000). No mature individuals of <i>T. maxima</i> were found in the dipterocarp rain forest during the study. The seeds may have come from adjacent secondary forests or roadside vegetation." [Synonym of <i>Thysanolaena latifolia</i>]
	SER, INSR, RBGK, (2023). Seed Information Database (SID). https://ser-sid.org/ . [Accessed 15 Jul 2024]	" <i>Thysanolaena latifolia</i> (Roxb. ex Hornem.) Honda Poaceae · <i>Thysanolaena</i> Storage Behaviour: Orthodox Conditions: 94 % viability following drying to mc's in equilibrium with 15 % RH and freezing for approx. 7.25 years at -20°C at RBG Kew, WP"

Qsn #	Question	Answer
	Medico, J. M. L., Rua, G. H., Bonasora, M. G., & Vega, A. S. (2018). Floral reversion and first record of pseudovivipary in some species of Poaceae. <i>Adansonia</i> , 40(1), 59-66	[Reproduces asexually through pseudovivipary] "This contribution constitutes the first report of floral reversion and occurrence of pseudovivipary in <i>Paspalum ceresia</i> (Kuntze) Chase, <i>P. stellatum</i> Humb. & Bonpl. ex Flüggé and <i>Thysanolaena latifolia</i> (Roxb. ex Hornem.) Honda. Observations were made in material kept under cultivation in Buenos Aires (Argentina) since March 2001. Proliferating spikelets are described and illustrated, and some implications in the origin of spikelet organs are discussed. An up to date table including the genera of Poaceae where this phenomenon has been documented is also provided." ... "This phenomenon is more appropriately referred to pseudovivipary to distinguish it from vivipary sensu stricto. In grasses, the most familiar situation is the conversion of the whole spikelet or part of the spikelet into a leafy shoot. Such a 'return' to the foliage-leaf condition is responsible for the vegetative aspect of proliferating spikelets. Pseudovivipary is an asexual reproductive mechanism exhibited by some arctic/alpine grasses in which leafy plantlets with conserved genomes constitute an advantage for stress tolerators in these nutrient-poor habitats (Pierce et al. 2003)."

603	Hybridizes naturally	
	Source(s)	Notes
	WRA Specialist. (2024). Personal Communication	Unknown. No evidence found

604	Self-compatible or apomictic	
	Source(s)	Notes
	Godin, V. N. (2022). Trioecy in Flowering Plants. <i>Doklady Biological Sciences</i> 507(1): 301-311	[Unknown if hermaphroditic flowers are capable of self-fertilization] "Populations of trioecious plants consists of individuals with staminate, pistillate, and hermaphrodite flowers." ... "Poaceae. <i>Poa palmeri</i> Soreng and P.M. Peterson (Soreng and Peterson, 2012), <i>P. stebbinsii</i> Soreng (Giussani et al., 2016), <i>Thysanolaena latifolia</i> (Roxb. ex Hornem.) Honda (for <i>Thysanolaena maxima</i> (Roxb.) Kuntze) (Soriano et al., 2007)."

605	Requires specialist pollinators	n
	Source(s)	Notes
	Quattrocchi, U. (2006). <i>CRC World Dictionary of Grasses: Common Names, Scientific Names, Eponyms, Synonyms, and Etymology</i> . CRC Press, Boca Raton, FL	Poaceae. Presumably wind-pollinated

606	Reproduction by vegetative fragmentation	
	Source(s)	Notes
	Fetalvero, E. G. (2012). Tiger grass, <i>Thysanolaena maxima</i> (Roxb.) O. Kuntze: A review of its biology and uses. Romblon State University, Odiongan, Romblon, Philippines	[Possibly if rhizomes become detached] "tiger grass was characterized as seed or rhizome propagated" ... "Its height ranges from 3.24 m to 4.91 meters and foliage spreads laterally from 3.87 m to 5.13 m. Its root extends vertically up to 9.5 m and spreads laterally up to 1.32 m horizontal."

607	Minimum generative time (years)	2
	Source(s)	Notes

Qsn #	Question	Answer
	Quattrocchi, U. (2006). CRC World Dictionary of Grasses: Common Names, Scientific Names, Eponyms, Synonyms, and Etymology. CRC Press, Boca Raton, FL	"Perennial, stout, very robust"
	Fetalvero, E. G. (2012). Tiger grass, <i>Thysanolaena maxima</i> (Roxb.) O. Kuntze: A review of its biology and uses. Romblon State University, Odiongan, Romblon, Philippines	[Probably 1-2 years] "The planting can be done by seeds, rhizomes (Bisht and Ahlawat, 1998) or slips - containing 3-4 buds and 1-2 nodes (Bhuchar, 2002) mixed with other crops in open fields (Nicholson et al., 2008). Under natural condition, it regenerates through seeds (Bisht and Ahlawat, 1998). It has a stable seed input and even distribution (Tang et al., 2006). The flower spikelets appear hairless at first, but as they mature the small hairs become more obvious, giving the seed-head a slightly feathery appearance. These spikelets contain a small and feathery seed (about 0.5 mm long) which can easily be spread about by wind, water, vehicles and mowing equipment (Weed Watch Australia, 2011). When the seeds mature usually from February to March, the numerous tiny flowering spikelets (1.5-2 mm long) are shed from the large seed-heads (30-60 cm long). The seed germinates best in the beginning of the rainy season on loose and exposed areas (Bisht and Ahlawat, 1998) under light conditions at 25°C ."

701	Propagules likely to be dispersed unintentionally (plants growing in heavily trafficked areas)	y
	Source(s)	Notes
	Fetalvero, E. G. (2012). Tiger grass, <i>Thysanolaena maxima</i> (Roxb.) O. Kuntze: A review of its biology and uses. Romblon State University, Odiongan, Romblon, Philippines	"The flower spikelets appear hairless at first, but as they mature the small hairs become more obvious, giving the seed-head a slightly feathery appearance. These spikelets contain a small and feathery seed (about 0.5 mm long) which can easily be spread about by wind, water, vehicles and mowing equipment"

702	Propagules dispersed intentionally by people	y
	Source(s)	Notes
	Medico, J. M. L., Rua, G. H., Bonasora, M. G., & Vega, A. S. (2018). Floral reversion and first record of pseudovivipary in some species of Poaceae. <i>Adansonia</i> , 40(1), 59-66	" <i>Thysanolaena latifolia</i> (Panicoidae: Thysanolaeneae) is native from India and introduced as an ornamental in the Caribbean, El Salvador, and United States (Davidse 2003), and sporadically cultivated in South America (Argentina and Brazil) (Rúgolo de Agrasar & Puglia 2004)."

703	Propagules likely to disperse as a produce contaminant	
	Source(s)	Notes
	WRA Specialist. (2024). Personal Communication	Unknown. Cited as an agricultural weed, so may become a crop or harvest contaminant

704	Propagules adapted to wind dispersal	y
	Source(s)	Notes
	Fetalvero, E. G. (2012). Tiger grass, <i>Thysanolaena maxima</i> (Roxb.) O. Kuntze: A review of its biology and uses. Romblon State University, Odiongan, Romblon, Philippines	"The flower spikelets appear hairless at first, but as they mature the small hairs become more obvious, giving the seed-head a slightly feathery appearance. These spikelets contain a small and feathery seed (about 0.5 mm long) which can easily be spread about by wind, water, vehicles and mowing equipment"

705	Propagules water dispersed	y
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Qsn #	Question	Answer
	Source(s)	Notes
	Wu, Z.Y., Raven, P.H. & Hong, D.Y. (eds.). (2006). Flora of China. Vol. 22 (Poaceae). Science Press, Beijing, and Missouri Botanical Garden Press, St. Louis	"Hillsides and valleys, among rocks, in thickets, forest margins, open grasslands, river banks"
	Fetalvero, E. G. (2012). Tiger grass, <i>Thysanolaena maxima</i> (Roxb.) O. Kuntze: A review of its biology and uses. Romblon State University, Odiongan, Romblon, Philippines	"The flower spikelets appear hairless at first, but as they mature the small hairs become more obvious, giving the seed-head a slightly feathery appearance. These spikelets contain a small and feathery seed (about 0.5 mm long) which can easily be spread about by wind, water, vehicles and mowing equipment"

706	Propagules bird dispersed	n
	Source(s)	Notes
	Fetalvero, E. G. (2012). Tiger grass, <i>Thysanolaena maxima</i> (Roxb.) O. Kuntze: A review of its biology and uses. Romblon State University, Odiongan, Romblon, Philippines	[No evidence] "The flower spikelets appear hairless at first, but as they mature the small hairs become more obvious, giving the seed-head a slightly feathery appearance. These spikelets contain a small and feathery seed (about 0.5 mm long) which can easily be spread about by wind, water, vehicles and mowing equipment"

707	Propagules dispersed by other animals (externally)	
	Source(s)	Notes
	Fetalvero, E. G. (2012). Tiger grass, <i>Thysanolaena maxima</i> (Roxb.) O. Kuntze: A review of its biology and uses. Romblon State University, Odiongan, Romblon, Philippines	[Possibly could attach to animals with feathery seed] "The flower spikelets appear hairless at first, but as they mature the small hairs become more obvious, giving the seed-head a slightly feathery appearance. These spikelets contain a small and feathery seed (about 0.5 mm long) which can easily be spread about by wind, water, vehicles and mowing equipment"

708	Propagules survive passage through the gut	
	Source(s)	Notes
	Quattrocchi, U. (2006). CRC World Dictionary of Grasses: Common Names, Scientific Names, Eponyms, Synonyms, and Etymology. CRC Press, Boca Raton, FL	"tender leaves and stem tips used as fodder for cattle and buffaloes" [Unknown if seeds are ingested and remain viable after gut passage]

801	Prolific seed production (>1000/m2)	
	Source(s)	Notes
	Fetalvero, E. G. (2012). Tiger grass, <i>Thysanolaena maxima</i> (Roxb.) O. Kuntze: A review of its biology and uses. Romblon State University, Odiongan, Romblon, Philippines	[Density unknown] "Under natural condition, it regenerates through seeds (Bisht and Ahlawat, 1998). It has a stable seed input and even distribution (Tang et al., 2006). The flower spikelets appear hairless at first, but as they mature the small hairs become more obvious, giving the seed-head a slightly feathery appearance."

802	Evidence that a persistent propagule bank is formed (>1 yr)	
	Source(s)	Notes

Qsn #	Question	Answer
	Tang, Y., Cao, M., & Fu, X. (2006). Soil Seedbank in a Dipterocarp Rain Forest in Xishuangbanna, Southwest China. <i>Biotropica</i> : 38(3), 328-333	[Present in seed bank. Longevity unspecified] "The most dominant herb species was <i>Thysanolaena maxima</i> , a common weed species in the Asia-Pacific region, which occurs in recently disturbed and abandoned slash-and-burn areas. <i>T. maxima</i> seeds accounted for 54.6 percent of the total herb seeds in soil samples taken during the dry season and 42.5 percent taken in the rainy season. It was also the dominant species in the mixed seasonal rain forest and secondary forests following slash-and-burn in this area (Cao et al. 2000). No mature individuals of <i>T. maxima</i> were found in the dipterocarp rain forest during the study. The seeds may have come from adjacent secondary forests or roadside vegetation. Most of the species with high seed storage, such as <i>T. maxima</i> , <i>P. elegans</i> , <i>A. chinensis</i> , and <i>M. elongata</i> , scored a high frequency in both the dry and rainy seasons (Table 3), indicating a stable seed input and even distribution." [Synonym of <i>Thysanolaena latifolia</i>]

803	Well controlled by herbicides	
	Source(s)	Notes
	WRA Specialist. (2024). Personal Communication	Unknown

804	Tolerates, or benefits from, mutilation, cultivation, or fire	y
	Source(s)	Notes
	Fetalvero, E. G. (2012). Tiger grass, <i>Thysanolaena maxima</i> (Roxb.) O. Kuntze: A review of its biology and uses. Romblon State University, Odiongan, Romblon, Philippines	"tiger grass was characterized as seed or rhizome propagated, fast-growing, tolerant to pruning, high biomass production and drought and fire tolerant."

805	Effective natural enemies present locally (e.g. introduced biocontrol agents)	
	Source(s)	Notes
	WRA Specialist. (2024). Personal Communication	Unknown

Summary of Risk Traits:

Thysanolaena latifolia (tiger grass, broom grass) is a perennial grass native to tropical and subtropical regions of Asia, including China, India, Nepal, Bhutan, and Southeast Asian countries. It grows well in hilly areas, often on slopes and along riverbanks and is cultivated for broom making, erosion control, forage for livestock, and for ceremonial and ornamental purposes. In the Hawaiian Islands, It has become naturalized on the island of Oahu and has recently been documented as spreading along a river in Hilo, Hawaii island. With its ability to establish by wind and water-dispersed seeds and rhizomes, and to form large clumps, it may be able to compete with and exclude other desirable vegetation in agricultural and natural environments.

High Risk / Undesirable Traits

- Broad climate suitability and environmental versatility
- Grows and spreads in regions with tropical climates
- Naturalized on Oahu, and Hawaii islands, and other locations worldwide
- Reported to be weedy in disturbed habitats and agricultural crops
- Host of crop pathogens
- Able to establish in shade
- Tolerates many soil types
- Reproduces by seeds, asexually through pseudovivipary, and possibly via spread of rhizome fragments
- Propagules spread by wind, water, vehicles, and mowing equipment, as well as through intentional cultivation
- Seeds may form a persistent seed bank (up to 4 years)
- Tolerates pruning, drought, and fire

Low Risk Traits

- Unarmed (no spines, thorns, or burrs)
- Palatable and used as livestock fodder
- Reported to be non-toxic