

Taxon: <i>Alpinia luteocarpa</i> Elmer	Family: Zingiberaceae
Common Name(s): bamboo ginger red bamboo Ginger	Synonym(s):

Assessor: Chuck Chimera	Status: Assessor Approved	End Date: 11 Oct 2016
WRA Score: 4.0	Designation: L	Rating: Low Risk

Keywords: Rhizomatous, Tropical, Herb, Ornamental, Unarmed

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	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	?
301	Naturalized beyond native range	y = 1*multiplier (see Appendix 2), n= question 205	n
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)	n
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		
403	Parasitic	y=1, n=0	n
404	Unpalatable to grazing animals		
405	Toxic to animals	y=1, n=0	n
406	Host for recognized pests and pathogens		
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	n
409	Is a shade tolerant plant at some stage of its life cycle	y=1, n=0	y

Qsn #	Question	Answer Option	Answer
410	Tolerates a wide range of soil conditions (or limestone conditions if not a volcanic island)		
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	n
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		
602	Produces viable seed	y=1, n=-1	y
603	Hybridizes naturally		
604	Self-compatible or apomictic		
605	Requires specialist pollinators		
606	Reproduction by vegetative fragmentation	y=1, n=-1	y
607	Minimum generative time (years)	1 year = 1, 2 or 3 years = 0, 4+ years = -1	>3
701	Propagules likely to be dispersed unintentionally (plants growing in heavily trafficked areas)	y=1, n=-1	n
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	n
705	Propagules water dispersed		
706	Propagules bird dispersed		
707	Propagules dispersed by other animals (externally)		
708	Propagules survive passage through the gut		
801	Prolific seed production (>1000/m ²)		
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
	National Tropical Botanical Garden. (2016). <i>Alpinia luteocarpa</i> (Zingiberaceae). http://ntbg.org/plants/plant_details.php?plantid=453 . [Accessed 10 Oct 2016]	[No evidence] " <i>Alpinia luteocarpa</i> is native to the Philippines."
102	Has the species become naturalized where grown?	
	Source(s)	Notes
	WRA Specialist. 2016. Personal Communication	NA
103	Does the species have weedy races?	
	Source(s)	Notes
	WRA Specialist. 2016. 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
	National Tropical Botanical Garden. (2016). <i>Alpinia luteocarpa</i> (Zingiberaceae). http://ntbg.org/plants/plant_details.php?plantid=453 . [Accessed 10 Oct 2016]	" <i>Alpinia luteocarpa</i> is native to the Philippines."
202	Quality of climate match data	High
	Source(s)	Notes
	National Tropical Botanical Garden. (2016). <i>Alpinia luteocarpa</i> (Zingiberaceae). http://ntbg.org/plants/plant_details.php?plantid=453 . [Accessed 10 Oct 2016]	
203	Broad climate suitability (environmental versatility)	n
	Source(s)	Notes
	Wellspring Gardens. (2016). Bamboo Ginger <i>Alpinia luteocarpa</i> . http://wellspringgardens.com/bamboo-ginger-alpinia-luteocarpa . [Accessed 10 Oct 2016]	"Zone - Zones 9 - 11"

Qsn #	Question	Answer
204	Native or naturalized in regions with tropical or subtropical climates	y
	Source(s)	Notes
	National Tropical Botanical Garden. (2016). <i>Alpinia luteocarpa</i> (Zingiberaceae). http://ntbg.org/plants/plant_details.php?plantid=453 . [Accessed]	" <i>Alpinia luteocarpa</i> is native to the Philippines."
205	Does the species have a history of repeated introductions outside its natural range?	?
	Source(s)	Notes
	WRA Specialist. 2016. Personal Communication	Limited cultivation as an ornamental
301	Naturalized beyond native range	n
	Source(s)	Notes
	Randall, R.P. 2012. A Global Compendium of Weeds. 2nd Edition. Department of Agriculture and Food, Western Australia	No evidence
	Wagner, W.L., Herbst, D.R.& Lorence, D.H. 2016. Flora of the Hawaiian Islands. Smithsonian Institution, Washington, D.C. http://botany.si.edu/ . [Accessed 10 Oct 2016]	No evidence
302	Garden/amenity/disturbance weed	n
	Source(s)	Notes
	Randall, R.P. 2012. A Global Compendium of Weeds. 2nd Edition. Department of Agriculture and Food, Western Australia	No evidence
303	Agricultural/forestry/horticultural weed	n
	Source(s)	Notes
	Randall, R.P. 2012. A Global Compendium of Weeds. 2nd Edition. Department of Agriculture and Food, Western Australia	No evidence
304	Environmental weed	n
	Source(s)	Notes
	Randall, R.P. 2012. A Global Compendium of Weeds. 2nd Edition. Department of Agriculture and Food, Western Australia	No evidence
305	Congeneric weed	y

Qsn #	Question	Answer
	Source(s)	Notes
	<p>CABI, 2016. <i>Alpinia zerumbet</i>. In: Invasive Species Compendium. Wallingford, UK: CAB International. www.cabi.org/isc</p>	<p>"<i>A. zerumbet</i> is listed as an 'environmental weed' and 'cultivation escape' in the Global Compendium of Weeds (Randall, 2012). The species forms dense thickets and can reproduce through rhizome fragmentation or by seed, producing as many as 1000 seeds per square foot (PIER, 2013). <i>A. zerumbet</i> is listed as a "potential transformer" in South Africa, invading watercourses, forest margins, roadsides, and urban open space (Henderson, 2001). In Hawaii, it is generally an occasional escape from cultivation (Wagner et al., 1999) but invasive on Moloka`i and Maui Islands (Oppenheimer, 2008). <i>A. zerumbet</i> is listed as native to northeastern India, Burma (Myanmar), Indo-China, China and Japan, and has been actively cultivated as an ornamental across Southeast Asia and many tropical and subtropical countries (Ibrahim, 2001). It is considered a noxious weed in Cuba (Oviedo Prieto et al., 2012), and invasive in many Pacific countries including Fiji, French Polynesia, Palau, and New Caledonia (PIER, 2013). The Global Invasive Species Programme lists <i>A. zerumbet</i> as an invasive weed in South Africa (Macdonald et al., 2003)."</p>
	<p>Foxcroft, L. C., Richardson, D. M., & Wilson, J. R. 2008. Ornamental plants as invasive aliens: problems and solutions in Kruger National Park, South Africa. <i>Environmental Management</i>, 4 (1): 32-51</p>	<p>"Considerable effort was also invested in educating residents as to the damage caused by invasive alien species. This included some species present in these villages and not yet invasive in South Africa but invasive elsewhere in the world. Despite this, problems were still experienced when scheduling removal of established alien plants from gardens; especially well established or large plants that formed prominent features in gardens (e.g. <i>Alpinia zerumbet</i> [shell ginger],..."</p>
	<p>Randall, R.P. 2012. <i>A Global Compendium of Weeds</i>. 2nd Edition. Department of Agriculture and Food, Western Australia</p>	<p>A number of species are listed as naturalized, and a few are included in references of weeds</p>

Qsn #	Question	Answer
401	Produces spines, thorns or burrs	n
	Source(s)	Notes
	National Tropical Botanical Garden. (2016). <i>Alpinia luteocarpa</i> (Zingiberaceae). http://ntbg.org/plants/plant_details.php?plantid=453 . [Accessed 10 Oct 2016]	[No evidence] " <i>Alpinia luteocarpa</i> is a low-growing herb that can grow up to 1.5 m tall with horizontal underground stems called rhizomes and erect stems on which the leaves are alternately arranged. The leaves are lanceolate (wide at the base and narrowing to the tip) and are arranged in a single plane along the stem. The underside of the leaves is dark reddish purple. The flowers are produced in clusters of three to five flowers at the ends of the branches. Each flower is associated with several dark brown to purple bracts that clasp the stalk of the flower. Each flower has a pink to red calyx that is fused along most of its length, and white petals that are fused along half their length. Each flower contain six stamens (pollen producing structures), but only one of these is fertile and the remaining five stamens do not produce pollen. The infertile stamens are fused together forming a lip, which is showy and may also serve to attract pollinators to the flowers. The round, three parted fruit is yellow and dry at maturity, and contains many small seeds. The fused floral tube remains attached at the tip of the ovary as the fruit develops."

402	Allelopathic	
	Source(s)	Notes
	Xuan, T. D., & Teschke, R. (2015). Dihydro-5, 6-dehydrokavain (DDK) from <i>Alpinia zerumbet</i> : Its Isolation, Synthesis, and Characterization. <i>Molecules</i> , 20(9), 16306-16319	[Unknown. Potential allelopathic chemical identified in other members of genus] "Kavalactones have been identified in other <i>Alpinia</i> species such as <i>Alpinia kumatake</i> [37], <i>Alpinia galangal</i> [38,39], and <i>Alpinia oxyphyllae</i> ... However, DDK and DK coexist only in <i>Alpinia zerumbet</i> [18,19] and <i>Alpinia kumatake</i> [37], and not in <i>Alpinia galangal</i> and <i>Alpinia oxyphyllae</i> [39,40];" ... "It can be proposed that DDK and DK may play an important role in allelopathy of <i>alpinia</i> to suppress growth of other plants in its vicinity and expands its population in the plant ecosystem."

403	Parasitic	n
	Source(s)	Notes
	National Tropical Botanical Garden. (2016). <i>Alpinia luteocarpa</i> (Zingiberaceae). http://ntbg.org/plants/plant_details.php?plantid=453 . [Accessed 10 Oct 2016]	" <i>Alpinia luteocarpa</i> is a low-growing herb that can grow up to 1.5 m tall with horizontal underground stems called rhizomes and erect stems on which the leaves are alternately arranged. The leaves are lanceolate (wide at the base and narrowing to the tip) and are arranged in a single plane along the stem. The underside of the leaves is dark reddish purple." [Zingiberaceae. No evidence]

404	Unpalatable to grazing animals	
	Source(s)	Notes
	WRA Specialist. 2016. Personal Communication	Unknown. Several <i>Alpinia</i> species are consumed by humans

405	Toxic to animals	n
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Qsn #	Question	Answer
	Source(s)	Notes
	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
	Wagstaff, D.J. 2008. International poisonous plants checklist: an evidence-based reference. CRC Press, Boca Raton, FL	No evidence

406	Host for recognized pests and pathogens	
	Source(s)	Notes
	Florida Hill Nursery. (2016). <i>Alpinia luteocarpa</i> 'Bamboo Ginger' live plant. http://www.floridahillnursery.com/ginger-alpinia-plants-c-5/alpinia-luteocarpa-bamboo-ginger-live-plant-p-237 . [Accessed 10 Oct 2016]	" <i>Alpinia</i> 'Bamboo Ginger' pests and disease, Pests or diseases are few and far between"

407	Causes allergies or is otherwise toxic to humans	n
	Source(s)	Notes
	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
	Wagstaff, D.J. 2008. International poisonous plants checklist: an evidence-based reference. CRC Press, Boca Raton, FL	No evidence

408	Creates a fire hazard in natural ecosystems	n
	Source(s)	Notes
	National Tropical Botanical Garden. (2016). <i>Alpinia luteocarpa</i> (Zingiberaceae). http://ntbg.org/plants/plant_details.php?plantid=453 . [Accessed 10 Oct 2016]	" <i>Alpinia luteocarpa</i> is a low-growing herb that can grow up to 1.5 m tall with horizontal underground stems called rhizomes and erect stems on which the leaves are alternately arranged." [No evidence & unlikely. An herb]

409	Is a shade tolerant plant at some stage of its life cycle	y
	Source(s)	Notes
	Dave's Garden. (2016). Red Bamboo Ginger - <i>Alpinia luteocarpa</i> . http://davesgarden.com/guides/pf/go/192596/ . [Accessed 10 Oct 2016]	"Sun Exposure: Sun to Partial Shade"

410	Tolerates a wide range of soil conditions (or limestone conditions if not a volcanic island)	
	Source(s)	Notes

Qsn #	Question	Answer
	AgriStarts, Inc. (2016). <i>Alpinia luteocarpa</i> 'Bamboo Ginger'. https://www.agristarts.com/index.cfm/fuseaction/plants.plantDetail/plant_ID/39/index.htm . [Accessed 10 Oct 2016]	"SOIL MOISTURE: · Moist, Well-Drained"
411	Climbing or smothering growth habit	n
	Source(s)	Notes
	National Tropical Botanical Garden. (2016). <i>Alpinia luteocarpa</i> (Zingiberaceae). http://ntbg.org/plants/plant_details.php?plantid=453 . [Accessed 10 Oct 2016]	" <i>Alpinia luteocarpa</i> is a low-growing herb that can grow up to 1.5 m tall with horizontal underground stems called rhizomes and erect stems on which the leaves are alternately arranged. "
412	Forms dense thickets	
	Source(s)	Notes
	WRA Specialist. 2016. Personal Communication	Unknown
501	Aquatic	n
	Source(s)	Notes
	WRA Specialist. 2016. Personal Communication	Terrestrial herb
502	Grass	n
	Source(s)	Notes
	USDA, ARS, Germplasm Resources Information Network, 2016. National Plant Germplasm System [Online Database]. http://www.ars-grin.gov/npgs/index.html . [Accessed 10 Oct 2016]	Family: Zingiberaceae Subfamily: Alpinioideae Tribe: Alpinie
503	Nitrogen fixing woody plant	n
	Source(s)	Notes
	USDA, ARS, Germplasm Resources Information Network, 2016. National Plant Germplasm System [Online Database]. http://www.ars-grin.gov/npgs/index.html . [Accessed 10 Oct 2016]	Family: Zingiberaceae Subfamily: Alpinioideae Tribe: Alpinie

Qsn #	Question	Answer
504	Geophyte (herbaceous with underground storage organs -- bulbs, corms, or tubers)	n
	Source(s)	Notes
	Gordon, D. R., Mitterdorfer, B., Pheloung, P. C., Ansari, S., Buddenhagen, C., Chimera, C., ... & Williams, P. A. 2010). Guidance for addressing the Australian Weed Risk Assessment questions. <i>Plant Protection Quarterly</i> , 25(2): 56-74	"This question is specifically to deal with plants that have specialized organs and should not include plants merely with rhizomes" [<i>Alpinia luteocarpa</i> is rhizomatous, and can likely can spread vegetatively]

601	Evidence of substantial reproductive failure in native habitat	
	Source(s)	Notes
	WRA Specialist. 2016. Personal Communication	Unknown

602	Produces viable seed	y
	Source(s)	Notes
	National Tropical Botanical Garden. (2016). <i>Alpinia luteocarpa</i> (Zingiberaceae). http://ntbg.org/plants/plant_details.php?plantid=453 . [Accessed 10 Oct 2016]	"The round, three parted fruit is yellow and dry at maturity, and contains many small seeds."

603	Hybridizes naturally	
	Source(s)	Notes
	Liu, S. C., & Wang, J. C. (2009). New natural hybrid, <i>Alpinia</i> × <i>ilanensis</i> (Zingiberaceae) in Taiwan. <i>Taiwania</i> , 54 (2), 134-139	[Unknown. Hybridization documented in genus] "The genus <i>Alpinia</i> in Taiwan was very impressed by its frequent hybridization. Four out of 6 indigenous species in Taiwan proper have been reported to be involved in a reticulate hybridization. This paper describes and illustrates a new natural hybrid <i>A. × ilanensis</i> , putatively derived from <i>A. japonica</i> and <i>A. pricei</i> , which is supported by morphological and ecogeographical evidences. Based on sparse distribution mode and serious fertility reduction in these hybrid individuals, we suppose that the hybridization events between <i>A. japonica</i> and <i>A. pricei</i> have been independently occurred multiple times in field. This newly discovered hybrid reveals that all 6 independent species in this island possess the ability to cross each other."

604	Self-compatible or apomictic	
	Source(s)	Notes

Qsn #	Question	Answer
	Yu-Wen, C. U. I., & Qing-Jun, L. I. (2015). Autonomous Self-pollination under Dominant Flexistylous Outcrossing Mechanism in <i>Alpinia galanga</i> (Zingiberaceae). <i>Plant Diversity</i> , 37(06) 793-800	[Unknown. Other species apparently self-compatible, but with mechanisms to prevent selfing] "Here, we studied the breeding system of <i>Alpinia galanga</i> , the results show that (1) <i>Alpinia galanga</i> is self-compatible in which inbreeding depression occurs to some degree; (2) The anaflexistylous (ANA) morph of <i>Alpinia galanga</i> allocates more resource into outcrossing than the CATA morph; (3) The P/O ratio of the ANA morph is significantly lower than that of the CATA morph, as <i>Alpinia galanga</i> has constant six ovules in each ovary, the significant difference in P/O value reflects the contrast in pollen production." ... "In summary, autonomous self-pollination exists in <i>Alpinia galanga</i> , and while flexistylous functions to avoid unnecessary self-pollination and sexual interference, it also provides advantages for delayed autonomous self-pollination as a necessary reproductive assurance and preventing conflict among these three major features by controlling the time of autonomous self-pollination. This peculiar mechanism in <i>Alpinia galanga</i> thoroughly demonstrates its adaptation to unfavorable surrounding during the evolutionary process."

605	Requires specialist pollinators	
	Source(s)	Notes
	National Tropical Botanical Garden. (2016). <i>Alpinia luteocarpa</i> (Zingiberaceae). http://ntbg.org/plants/plant_details.php?plantid=453 . [Accessed 10 Oct 2016]	[Unknown] "The flowers are produced in clusters of three to five flowers at the ends of the branches. Each flower is associated with several dark brown to purple bracts that clasp the stalk of the flower. Each flower has a pink to red calyx that is fused along most of its length, and white petals that are fused along half their length. Each flower contain six stamens (pollen producing structures), but only one of these is fertile and the remaining five stamens do not produce pollen. The infertile stamens are fused together forming a lip, which is showy and may also serve to attract pollinators to the flowers."

606	Reproduction by vegetative fragmentation	y
	Source(s)	Notes
	Dave's Garden. (2016). Red Bamboo Ginger - <i>Alpinia luteocarpa</i> . http://davesgarden.com/guides/pf/go/192596/ . [Accessed 10 Oct 2016]	"Propagation Methods: By dividing rhizomes, tubers, corms or bulbs (including offsets)"

607	Minimum generative time (years)	>3
	Source(s)	Notes
	Dave's Garden. (2016). Red Bamboo Ginger - <i>Alpinia luteocarpa</i> . http://davesgarden.com/guides/pf/go/192596/ . [Accessed 10 Oct 2016]	"I've had it about 4 years and no flowers yet"

701	Propagules likely to be dispersed unintentionally (plants growing in heavily trafficked areas)	n
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Qsn #	Question	Answer
	Source(s)	Notes
	National Tropical Botanical Garden. (2016). <i>Alpinia luteocarpa</i> (Zingiberaceae). http://ntbg.org/plants/plant_details.php?plantid=453 . [Accessed 10 Oct 2016]	"The round, three parted fruit is yellow and dry at maturity, and contains many small seeds." [No evidence. Fruit & seeds lack means of external attachment]

702	Propagules dispersed intentionally by people	y
	Source(s)	Notes
	Wellspring Gardens. (2016). Bamboo Ginger <i>Alpinia luteocarpa</i> . http://wellspringgardens.com/bamboo-ginger-alpinia-luteocarpa . [Accessed 10 Oct 2016]	[Sold on-line] "These starter plants are shipped in 3" deep pots. We try to keep all of our plants between 3-8" in height with excellent root systems."

703	Propagules likely to disperse as a produce contaminant	
	Source(s)	Notes
	National Tropical Botanical Garden. (2016). <i>Alpinia luteocarpa</i> (Zingiberaceae). http://ntbg.org/plants/plant_details.php?plantid=453 . [Accessed 10 Oct 2016]	"The round, three parted fruit is yellow and dry at maturity, and contains many small seeds." [No evidence found. Seeds produced could hypothetically contaminate soil of other ornamental plants cultivated in vicinity]

704	Propagules adapted to wind dispersal	n
	Source(s)	Notes
	National Tropical Botanical Garden. (2016). <i>Alpinia luteocarpa</i> (Zingiberaceae). http://ntbg.org/plants/plant_details.php?plantid=453 . [Accessed 10 Oct 2016]	"The round, three parted fruit is yellow and dry at maturity, and contains many small seeds."

705	Propagules water dispersed	
	Source(s)	Notes
	WRA Specialist. 2016. Personal Communication	Possible that seeds, if produced, or rhizome fragments could be moved by water if plant grows in riparian areas

706	Propagules bird dispersed	
	Source(s)	Notes
	National Tropical Botanical Garden. (2016). <i>Alpinia luteocarpa</i> (Zingiberaceae). http://ntbg.org/plants/plant_details.php?plantid=453 . [Accessed 10 Oct 2016]	"The round, three parted fruit is yellow and dry at maturity, and contains many small seeds." [Dispersal vector unknown]

Qsn #	Question	Answer
707	Propagules dispersed by other animals (externally)	
	Source(s)	Notes
	National Tropical Botanical Garden. (2016). <i>Alpinia luteocarpa</i> (Zingiberaceae). http://ntbg.org/plants/plant_details.php?plantid=453 . [Accessed 10 Oct 2016]	"The round, three parted fruit is yellow and dry at maturity, and contains many small seeds." [Unknown. Many species in genus are arillate & may be ant-dispersed]
708	Propagules survive passage through the gut	
	Source(s)	Notes
	National Tropical Botanical Garden. (2016). <i>Alpinia luteocarpa</i> (Zingiberaceae). http://ntbg.org/plants/plant_details.php?plantid=453 . [Accessed 10 Oct 2016]	"The round, three parted fruit is yellow and dry at maturity, and contains many small seeds." [Unknown]
801	Prolific seed production (>1000/m ²)	
	Source(s)	Notes
	National Tropical Botanical Garden. (2016). <i>Alpinia luteocarpa</i> (Zingiberaceae). http://ntbg.org/plants/plant_details.php?plantid=453 . [Accessed 10 Oct 2016]	"The round, three parted fruit is yellow and dry at maturity, and contains many small seeds." [Unknown]
802	Evidence that a persistent propagule bank is formed (>1 yr)	
	Source(s)	Notes
	Royal Botanic Gardens Kew. (2016) Seed Information Database (SID). Version 7.1. http://data.kew.org/sid/ . [Accessed 10 Oct 2016]	Unknown. Some <i>Alpinia</i> species are documented to have orthodox seed storage
803	Well controlled by herbicides	
	Source(s)	Notes
	WRA Specialist. 2016. Personal Communication	Unknown. No information on herbicide efficacy or chemical control of this species
804	Tolerates, or benefits from, mutilation, cultivation, or fire	y
	Source(s)	Notes
	National Tropical Botanical Garden. (2016). <i>Alpinia luteocarpa</i> (Zingiberaceae). http://ntbg.org/plants/plant_details.php?plantid=453 . [Accessed 10 Oct 2016]	" <i>Alpinia luteocarpa</i> is a low-growing herb that can grow up to 1.5 m tall with horizontal underground stems called rhizomes and erect stems on which the leaves are alternately arranged." [Would likely be able to resprout from rhizomes if aboveground vegetation was cut]

Qsn #	Question	Answer
805	Effective natural enemies present locally (e.g. introduced biocontrol agents)	
	Source(s)	Notes
	WRA Specialist. 2016. Personal Communication	Unknown

Summary of Risk Traits:

High Risk / Undesirable Traits

- Thrives in tropical climates
- Other *Alpinia* species have become invasive weeds
- Possibly Shade tolerant
- Reproduces by seeds & rhizomes
- Seeds, if produced, possibly dispersed by birds or ants & intentionally by people
- May be able to resprout from cutting of rhizomes
- Limited information reduces accuracy of risk predication

Low Risk Traits

- No reports of invasiveness or negative impacts
- Unarmed (no spines, thorns or burrs)
- Ornamental & medicinal uses

Second Screening Results for Herbs & Low Stature Plants

(A) Reported as a weed of cultivated lands? No

Outcome = Accept (Low Risk)