

**Family:** *Areaceae*

**Taxon:** *Butia capitata*

**Synonym:** *Butia bonnetii* (Linden ex Chabaud) Becc. **Common Name:** jelly palm  
*Butia capitata* var. *deliciosa* Prosch. pindo palm  
*Butia capitata* var. *elegantissima* (Chabaud) L. South American jelly palm  
*Butia capitata* var. *erythrospatha* (Chabaud) L.  
*Butia capitata* var. *lilaceiflora* (Chabaud) Becc.  
*Butia capitata* var. *nehrlingiana* (L. H. Bailey  
*Butia capitata* var. *odorata* (Barb. Rodr.) Becc.  
*Butia capitata* var. *pulposa* (Barb. Rodr.) Becc.  
*Butia capitata* var. *pygmaea* Prosch.  
*Butia capitata* var. *subglobosa* Becc.  
*Butia capitata* var. *virescens* Becc.  
*Butia leiospatha* (Barb. Rodr.) Becc.  
*Butia nehrlingiana* L. H. Bailey  
*Cocos bonnetii* Linden ex Chabaud  
*Cocos capitata* Mart. (basionym)  
*Cocos odorata* Barb. Rodr.  
*Cocos pulposa* Barb. Rodr.  
*Syagrus capitata* (Mart.) Glassman

Questionnaire :	current 20090513	Assessor:	Patti Clifford	Designation: L
Status:	Assessor Approved	Data Entry Person:	Patti Clifford	WRA Score 0
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)	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	y
301	Naturalized beyond native range		y = 1*multiplier (see Appendix 2), n= question 205	
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)	n

401	Produces spines, thorns or burrs	y=1, n=0	y
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	n
409	Is a shade tolerant plant at some stage of its life cycle	y=1, n=0	
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	n
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	y=1, n=0	n
602	Produces viable seed	y=1, n=-1	y
603	Hybridizes naturally	y=1, n=-1	y
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	n
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	n
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	n
705	Propagules water dispersed	y=1, n=-1	
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	y

<b>801</b>	<b>Prolific seed production (&gt;1000/m2)</b>	<b>y=1, n=-1</b>	
<b>802</b>	<b>Evidence that a persistent propagule bank is formed (&gt;1 yr)</b>	<b>y=1, n=-1</b>	<b>n</b>
<b>803</b>	<b>Well controlled by herbicides</b>	<b>y=-1, n=1</b>	
<b>804</b>	<b>Tolerates, or benefits from, mutilation, cultivation, or fire</b>	<b>y=1, n=-1</b>	
<b>805</b>	<b>Effective natural enemies present locally (e.g. introduced biocontrol agents)</b>	<b>y=-1, n=1</b>	

**Designation: L**

**WRA Score 0**

**Supporting Data:**

101	2012. WRA Specialist. Personal Communication.	[Is the species highly domesticated? No] No evidence of domestication that reduces invasive traits.
102	2012. WRA Specialist. Personal Communication.	[Has the species become naturalized where grown? NA]
103	2012. WRA Specialist. Personal Communication.	[Does the species have weedy races? NA]
201	2012. USDA ARS National Genetic Resources Program. Germplasm Resources Information Network - (GRIN). <a href="http://www.ars-grin.gov/cgi-bin/npgs/html/index.pl">http://www.ars-grin.gov/cgi-bin/npgs/html/index.pl</a>	[Species suited to tropical or subtropical climate(s) - If island is primarily wet habitat, then substitute "wet tropical" for "tropical or subtropical"? 2 - high] Native distribution: Brazil; Argentina [possibly]; Uruguay
202	2012. USDA ARS National Genetic Resources Program. Germplasm Resources Information Network - (GRIN). <a href="http://www.ars-grin.gov/cgi-bin/npgs/html/index.pl">http://www.ars-grin.gov/cgi-bin/npgs/html/index.pl</a>	[Quality of climate match data? 2 - high] Native distribution: Brazil; Argentina [possibly]; Uruguay
203	2006. Gilman, E.F./Watson, D.G.. Butia capitata: pindo palm ENH264. University of Florida IFAS Extension, <a href="http://edis.ifas.ufl.edu/st105">http://edis.ifas.ufl.edu/st105</a>	[Broad climate suitability (environmental versatility)? No] USDA hardiness zones: 8b-11.
203	2012. Dave's Garden. PlantFiles: Pindo Palm, Wine Palm, Jelly Palm Butia capitata. <a href="http://davesgarden.com/guides/pf/go/57055/">http://davesgarden.com/guides/pf/go/57055/</a>	[Broad climate suitability (environmental versatility)? No] Hardiness: 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)
204	2010. Wunderlin, R.P./Hansen, B.F./Franck, A.R./Bradley, K.A./Kunzer, J.M.. Plants New to Florida. Journal of the Botanical Research Institute of Texas. 4(1): 349 – 355.	[Native or naturalized in regions with tropical or subtropical climates?] This report states that Butia capitata is naturalizing in Florida. No description of naturalize is given or how many plants were found.
204	2012. USDA ARS National Genetic Resources Program. Germplasm Resources Information Network - (GRIN). <a href="http://www.ars-grin.gov/cgi-bin/npgs/html/index.pl">http://www.ars-grin.gov/cgi-bin/npgs/html/index.pl</a>	[Native or naturalized in regions with tropical or subtropical climates? Yes] Native distribution: Brazil; Argentina [possibly]; Uruguay
205	2008. Janick, J./Paul, R.E.. The encyclopedia of fruit & nuts. Cabi Publishing, Wallingford, UK	[Does the species have a history of repeated introductions outside its natural range? Yes] Widely grown as an ornamental in temperate and subtropical zones of the world.
301	2010. Wunderlin, R.P./Hansen, B.F./Franck, A.R./Bradley, K.A./Kunzer, J.M.. Plants New to Florida. Journal of the Botanical Research Institute of Texas. 4(1): 349 – 355.	[Naturalized beyond native range?] This report states that Butia capitata is naturalizing in Florida. No description of naturalize is given or how many plants were found.
302	2007. Randall, R.. Global Compendium of Weeds - Butia capitata. <a href="http://www.hear.org/gcw/species/butia_capitata/">http://www.hear.org/gcw/species/butia_capitata/</a>	[Garden/amenity/disturbance weed? No] No evidence.
303	2007. Randall, R.. Global Compendium of Weeds - Butia capitata. <a href="http://www.hear.org/gcw/species/butia_capitata/">http://www.hear.org/gcw/species/butia_capitata/</a>	[Agricultural/forestry/horticultural weed? No] No evidence.
304	2007. Randall, R.. Global Compendium of Weeds - Butia capitata. <a href="http://www.hear.org/gcw/species/butia_capitata/">http://www.hear.org/gcw/species/butia_capitata/</a>	[Environmental weed? No] No evidence.
305	2007. Randall, R.P.. Global Compendium of Weeds - Index. <a href="http://www.hear.org/gcw/">http://www.hear.org/gcw/</a>	[Congeneric weed? No] No evidence.

401	2008. Janick, J./Paull, R.E.. The encyclopedia of fruit & nuts. Cabi Publishing, Wallingford, UK	[Produces spines, thorns or burrs? Yes] "Pindo palm is a solitary-stemmed feather palm growing 2-6 m in height. The trunk can reach about 0.5 m in diameter and remains clothed in old leaf bases for many years. The canopy consists of 18-32 arching leaves that vary from yellowish green to greyish green. Each leaf is 2.5-3 m long. The petiole is short, broad and armed with fibre spines."
401	2012. Dave's Garden. PlantFiles: Pindo Palm, Wine Palm, Jelly Palm Butia capitata. <a href="http://davesgarden.com/guides/pf/go/57055/">http://davesgarden.com/guides/pf/go/57055/</a>	[Produces spines, thorns or burrs? Yes] Plant has spines or sharp edges.
402	2012. WRA Specialist. Personal Communication.	[Allelopathic? Unknown]
403	2006. Gilman, E.F./Watson, D.G.. Butia capitata: pindo palm ENH264. University of Florida IFAS Extension, <a href="http://edis.ifas.ufl.edu/st105">http://edis.ifas.ufl.edu/st105</a>	[Parasitic? No] Arecaceae.
404	2011. Gaiero, P./Mazzella, C./Agostini, G./Bertolazzi, S./Rossato, M.. Genetic diversity among endangered Uruguayan populations of Butia Becc. Species based on ISSR. Plant Systematics and Evolution. 292: 105-116. <a href="http://www.springerlink.com.eres.library.ma">http://www.springerlink.com.eres.library.ma</a>	[Unpalatable to grazing animals? No] Butia capitata is endangered in areas of its native distribution (Uruguay) due to habitat fragmentation and cattle and sheep grazing.
404	2012. Dave's Garden. PlantFiles: Pindo Palm, Wine Palm, Jelly Palm Butia capitata. <a href="http://davesgarden.com/guides/pf/go/57055/">http://davesgarden.com/guides/pf/go/57055/</a>	[Unpalatable to grazing animals?] Deer resistant.
405	2012. National Center for Biotechnology Information. PubMed. <a href="http://www.ncbi.nlm.nih.gov/sites/entrez">http://www.ncbi.nlm.nih.gov/sites/entrez</a>	[Toxic to animals? No] No evidence of toxicity.
405	2012. Specialized Information Services, U.S. National Library of Medicine. TOXNET toxicology data network [online database]. National Institutes of Health, <a href="http://toxnet.nlm.nih.gov/">http://toxnet.nlm.nih.gov/</a>	[Toxic to animals? No] No evidence of toxicity.
406	2008. Janick, J./Paull, R.E.. The encyclopedia of fruit & nuts. Cabi Publishing, Wallingford, UK	[Host for recognized pests and pathogens?] Bruchid weevils sometimes infest the seed.
407	2008. Janick, J./Paull, R.E.. The encyclopedia of fruit & nuts. Cabi Publishing, Wallingford, UK	[Causes allergies or is otherwise toxic to humans?] Fruit is edible.
407	2012. National Center for Biotechnology Information. PubMed. <a href="http://www.ncbi.nlm.nih.gov/sites/entrez">http://www.ncbi.nlm.nih.gov/sites/entrez</a>	[Causes allergies or is otherwise toxic to humans? No] No evidence.
407	2012. Specialized Information Services, U.S. National Library of Medicine. TOXNET toxicology data network [online database]. National Institutes of Health, <a href="http://toxnet.nlm.nih.gov/">http://toxnet.nlm.nih.gov/</a>	[Causes allergies or is otherwise toxic to humans? No] No evidence.
408	2011. Broschat, T. K.. Pruning palms ENH1182. University of Florida IFAS Extension, <a href="http://edis.ifas.ufl.edu/pdf/EP/EP44300.pdf">http://edis.ifas.ufl.edu/pdf/EP/EP44300.pdf</a>	[Creates a fire hazard in natural ecosystems? No] Annual leaf production: eight leaves.
408	2012. WRA Specialist. Personal Communication.	[Creates a fire hazard in natural ecosystems? No] No evidence of the rapid accumulation of fuels or volatile oils that would increase fire hazard.
409	2006. Gilman, E.F./Watson, D.G.. Butia capitata: pindo palm ENH264. University of Florida IFAS Extension, <a href="http://edis.ifas.ufl.edu/st105">http://edis.ifas.ufl.edu/st105</a>	[Is a shade tolerant plant at some stage of its life cycle?] Full sun, partial sun, partial shade.
409	2012. Dave's Garden. PlantFiles: Pindo Palm, Wine Palm, Jelly Palm Butia capitata. <a href="http://davesgarden.com/guides/pf/go/57055/">http://davesgarden.com/guides/pf/go/57055/</a>	[Is a shade tolerant plant at some stage of its life cycle?] Full sun; sun to partial shade.
410	2006. Gilman, E.F./Watson, D.G.. Butia capitata: pindo palm ENH264. University of Florida IFAS Extension, <a href="http://edis.ifas.ufl.edu/st105">http://edis.ifas.ufl.edu/st105</a>	[Tolerates a wide range of soil conditions (or limestone conditions if not a volcanic island)? Yes] Soil tolerances: clay; sand; loam; slightly alkaline; acidic; well-drained
410	2012. Dave's Garden. PlantFiles: Pindo Palm, Wine Palm, Jelly Palm Butia capitata. <a href="http://davesgarden.com/guides/pf/go/57055/">http://davesgarden.com/guides/pf/go/57055/</a>	[Tolerates a wide range of soil conditions (or limestone conditions if not a volcanic island)?] Soil pH: 6.6-7.5 (neutral).
411	2008. Janick, J./Paull, R.E.. The encyclopedia of fruit & nuts. Cabi Publishing, Wallingford, UK	[Climbing or smothering growth habit? No] Palm, 2-6 m in height.

412	2012. WRA Specialist. Personal Communication.	[Forms dense thickets? No] No evidence of thicket formation.
501	2008. Janick, J./Paull, R.E.. The encyclopedia of fruit & nuts. Cabi Publishing, Wallingford, UK	[Aquatic? No] Terrestrial; palm.
502	2008. Janick, J./Paull, R.E.. The encyclopedia of fruit & nuts. Cabi Publishing, Wallingford, UK	[Grass? No] Arecaceae; palm.
503	2008. Janick, J./Paull, R.E.. The encyclopedia of fruit & nuts. Cabi Publishing, Wallingford, UK	[Nitrogen fixing woody plant? No] Arecaceae.
504	2008. Janick, J./Paull, R.E.. The encyclopedia of fruit & nuts. Cabi Publishing, Wallingford, UK	[Geophyte (herbaceous with underground storage organs -- bulbs, corms, or tubers)? No] Palm.
601	2011. Gaiero, P./Mazzella, C./Agostini, G./Bertolazzi, S./Rossato, M.. Genetic diversity among endangered Uruguayan populations of <i>Butia</i> Becc. Species based on ISSR. Plant Systematics and Evolution. 292: 105-116. <a href="http://www.springerlink.com.eres.library.ma">http://www.springerlink.com.eres.library.ma</a>	[Evidence of substantial reproductive failure in native habitat?] <i>Butia capitata</i> shows serious regeneration problems which jeopardizes its continuity in the future, in Uruguay (part of its native range).
602	2006. Gilman, E.F./Watson, D.G.. <i>Butia capitata</i> : pindo palm ENH264. University of Florida IFAS Extension, <a href="http://edis.ifas.ufl.edu/st105">http://edis.ifas.ufl.edu/st105</a>	[Produces viable seed? Yes] Propagation is by seed which take many months for germination.
602	2012. Dave's Garden. PlantFiles: Pindo Palm, Wine Palm, Jelly Palm <i>Butia capitata</i> . <a href="http://davesgarden.com/guides/pf/go/57055/">http://davesgarden.com/guides/pf/go/57055/</a>	[Produces viable seed? Yes] Propagation Methods: From seed; direct sow outdoors in fall From seed; germinate in a damp paper towel From seed; germinate in vitro in gelatin, agar or other medium
603	1973. Bush, C.S.. The palm: <i>Butia capitata</i> x <i>Arecastrum romanzoffianum</i> . Florida State Horticultural Society. <a href="http://www.fshs.org/Proceedings/Password%20Protected/1973%20Vol.%2086/470-473%20%28BUSH%29.pdf">http://www.fshs.org/Proceedings/Password%20Protected/1973%20Vol.%2086/470-473%20%28BUSH%29.pdf</a>	[Hybridizes naturally? Yes] <i>Butia capitata</i> naturally hybridized with <i>Arecastrum romanzoffianum</i> at a nursery in Florida in 1949. The seedlings of the two species were observed in seedling beds of the Florida Nursery and Landscape company of Leesburg.
604	2011. Gaiero, P./Mazzella, C./Agostini, G./Bertolazzi, S./Rossato, M.. Genetic diversity among endangered Uruguayan populations of <i>Butia</i> Becc. Species based on ISSR. Plant Systematics and Evolution. 292: 105-116. <a href="http://www.springerlink.com.eres.library.ma">http://www.springerlink.com.eres.library.ma</a>	[Self-compatible or apomictic?] " <i>Butia capitata</i> a is monoecious and protandric species, characteristics that suggest outcrossing. Systematic studies on its mating system have not been conducted, Rivas and Barilani (2004) found high levels of phenotypic variability in its largest population as expected."
605	1986. Henderson, A.. A Review of Pollination Studies in the Palmae. Botanical Review. 52: 221-259.	[Requires specialist pollinators? No] "There is more information on the Cocoeae than for any other group of palms, including the four most rigorous studies, those of Anderson (1983), Beach (1984), Sholdt and Mitchell (1967), and Syed (1979). Cocos and the closely related <i>Butia</i> exhibit mellitophily. All other genera studied are cantharophilous." [bee pollinated]
605	2011. Gaiero, P./Mazzella, C./Agostini, G./Bertolazzi, S./Rossato, M.. Genetic diversity among endangered Uruguayan populations of <i>Butia</i> Becc. Species based on ISSR. Plant Systematics and Evolution. 292: 105-116. <a href="http://www.springerlink.com.eres.library.ma">http://www.springerlink.com.eres.library.ma</a>	[Requires specialist pollinators?] "Pollination is likely to be entomophilous, though anemophilous pollination can not be disregarded."
606	2006. Gilman, E.F./Watson, D.G.. <i>Butia capitata</i> : pindo palm ENH264. University of Florida IFAS Extension, <a href="http://edis.ifas.ufl.edu/st105">http://edis.ifas.ufl.edu/st105</a>	[Reproduction by vegetative fragmentation? No] Propagation is by seed which take many months for germination.
606	2012. Dave's Garden. PlantFiles: Pindo Palm, Wine Palm, Jelly Palm <i>Butia capitata</i> . <a href="http://davesgarden.com/guides/pf/go/57055/">http://davesgarden.com/guides/pf/go/57055/</a>	[Reproduction by vegetative fragmentation? No] Propagation Methods: From seed; direct sow outdoors in fall From seed; germinate in a damp paper towel From seed; germinate in vitro in gelatin, agar or other medium
607	2006. Gilman, E.F./Watson, D.G.. <i>Butia capitata</i> : pindo palm ENH264. University of Florida IFAS Extension, <a href="http://edis.ifas.ufl.edu/st105">http://edis.ifas.ufl.edu/st105</a>	[Minimum generative time (years)? ] Slow growth rate.
701	2012. WRA Specialist. Personal Communication.	[Propagules likely to be dispersed unintentionally (plants growing in heavily trafficked areas)? No] No evidence of accidental dispersal. [palm is a popular ornamental]
702	2008. Janick, J./Paull, R.E.. The encyclopedia of fruit & nuts. Cabi Publishing, Wallingford, UK	[Propagules dispersed intentionally by people? Yes] Widely grown as an ornamental in temperate and subtropical zones of the world.

702	2011. Broschat, T. K.. Pruning palms ENH1182. University of Florida IFAS Extension, <a href="http://edis.ifas.ufl.edu/pdffiles/EP/EP44300.pdf">http://edis.ifas.ufl.edu/pdffiles/EP/EP44300.pdf</a>	[Propagules dispersed intentionally by people? Yes] <i>Butia capitata</i> is a popular ornamental palm used for landscaping in Florida.
703	2012. WRA Specialist. Personal Communication.	[Propagules likely to disperse as a produce contaminant? No] No evidence.
704	2007. Zona, S.. Additions to "A Review of Animal-mediated seed dispersal of Palms". Virtual Herbarium, <a href="http://www.virtualherbarium.org/palms/psdispersal.html">http://www.virtualherbarium.org/palms/psdispersal.html</a>	[Propagules adapted to wind dispersal? No] <i>Cerdocyon thous</i> , <i>Procyon cancrivorus</i> are dispersers of <i>f Butia capitata</i> . [this species is documented as dispersed by mammals; no adaptation for wind ]
705	2012. WRA Specialist. Personal Communication.	[Propagules water dispersed?] No research on bouyancy for this species.
706	2012. WRA Specialist. Personal Communication.	[Propagules bird dispersed? Unknown]
707	2006. Gilman, E.F./Watson, D.G.. <i>Butia capitata</i> : pindo palm ENH264. University of Florida IFAS Extension, <a href="http://edis.ifas.ufl.edu/st105">http://edis.ifas.ufl.edu/st105</a>	[Propagules dispersed by other animals (externally)?No] No means of external attachment. Fruit Fruit shape: round Fruit length: .5 to 1 inch Fruit covering: fleshy Fruit color: yellow, orange Fruit characteristics: attracts squirrels/mammals
708	2011. Gaiero, P./Mazzella, C./Agostini, G./Bertolazzi, S./Rossato, M.. Genetic diversity among endangered Uruguayan populations of <i>Butia Becc</i> . Species based on ISSR. Plant Systematics and Evolution. 292: 105-116. <a href="http://www.springerlink.com.eres.library.ma">http://www.springerlink.com.eres.library.ma</a>	[Propagules survive passage through the gut? Yes] "Seed dispersal is performed by frugivorous mammals, particularly foxes, reaching a dispersal range of 0.5-2 km.
801	2012. WRA Specialist. Personal Communication.	[Prolific seed production (>1000/m2)? Unknown]
802	2010. Robinson, M.L.. Cultivated Palm Seed Germination. SP-02-09. University of Nevada Cooperative Extension, Las Vegas, NV	[Evidence that a persistent propagule bank is formed (>1 yr)? No] "Palms are from tropical, subtropical and warm temperate areas of the world. Conditions in these climatic areas do not lend themselves to long-term storage. Under natural conditions, most palm seeds remain viable for only a few weeks. Only under special storage conditions as developed and described by Broschat and Donselman (1986 and 1987) can seeds be successfully stored for a year or longer. With few exceptions, a rest or storage period is not beneficial. The key seems to be that the more seasonal the native habitat, the greater the low temperature storage tolerance. <i>Butia capitata</i> actually germinates following a period of dry storage in temperatures as low as 5.5°C for 150 days. This is not a recommended procedure for any species of palm, including <i>Butia capitata</i> . However, most tropical palms stored below 15°C will lose viability."
803	2012. WRA Specialist. Personal Communication.	[Well controlled by herbicides? Unknown]
804	2012. WRA Specialist. Personal Communication.	[Tolerates, or benefits from, mutilation, cultivation, or fire? Unknown]
805	2012. WRA Specialist. Personal Communication.	[Effective natural enemies present locally (e.g. introduced biocontrol agents)? Unknown]

## Summary of Risk Traits

### **High Risk Traits:**

- Native to subtropics.
- Naturalized in Florida (possibly).
- Leaves have sharp spines.
- Wide soil tolerance.
- Hybridizes with other palm genera.

### **Low Risk Traits:**

- Not a weed in temperate, subtropical or tropical environments.
- No invasive weeds in the genus.
- Non-toxic to humans and animals.
- Does not create a fire hazard.
- Slow-growing.
- Does not develop a persistent seed bank.