

Family: *Myrtaceae*

Taxon: *Acca sellowiana*

Synonym: *Feijoa sellowiana* (O. Berg) O. Berg
Orthostemon sellowianus O. Berg (basionym)

Common Name: guavasteen
pineapple-guava

Questionnaire :	current 20090513	Assessor:	Patti Clifford	Designation: EVALUATE
Status:	Assessor Approved	Data Entry Person:	Patti Clifford	WRA Score 5
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		
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)	n	
305	Congeneric weed	n=0, y = 1*multiplier (see Appendix 2)	n	
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		
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		
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	
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	
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	3
701	Propagules likely to be dispersed unintentionally (plants growing in heavily trafficked areas)	y=1, n=-1	
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	y
707	Propagules dispersed by other animals (externally)	y=1, n=-1	n
708	Propagules survive passage through the gut	y=1, n=-1	y
801	Prolific seed production (>1000/m2)	y=1, n=-1	y
802	Evidence that a persistent propagule bank is formed (>1 yr)	y=1, n=-1	
803	Well controlled by herbicides	y=-1, n=1	y
804	Tolerates, or benefits from, mutilation, cultivation, or fire	y=1, n=-1	
805	Effective natural enemies present locally (e.g. introduced biocontrol agents)	y=-1, n=1	

Designation: EVALUATE

WRA Score 5

Supporting Data:

101	1987. Morton, J.. Fruits of warm climates. J.F. Morton, Miami, FL http://www.hort.purdue.edu/newcrop/morton	[Is the species highly domesticated? No]"Nowhere has the feijoa received more attention than in New Zealand. An Auckland nurseryman introduced 3 cultivars from Australia-'Coolidge', 'Choiceana', and 'Superba'-about 1908. They remained little known until 1930 when the feijoa was advertised as an ornamental plant. Later, after improvement by selection and naming of types with large, superior fruits and their vegetative propagation, small commercial plantings were made in citrus-growing areas of the North Island." [no evidence of domestication that reduces invasive ability]
102	2011. WRA Specialist. Personal Communication.	[Has the species become naturalized where grown?] NA
103	2011. WRA Specialist. Personal Communication.	[Does the species have weedy races?] NA
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"? High] Native range: Brazil - Minas Gerais [s.], Parana, Rio Grande do Norte, Rio Grande do Sul, Santa Catarina, Sao Paulo; Argentina - Misiones; Uruguay.
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? High] Native range: Brazil - Minas Gerais [s.], Parana, Rio Grande do Norte, Rio Grande do Sul, Santa Catarina, Sao Paulo; Argentina - Misiones; Uruguay.
203	2011. Gilman, E.F./Watson, D.G.. Feijoa sellowiana: Feijoa. University of Florida IFAS Extension, http://edis.ifas.ufl.edu/pdf/ST/ST24900.pdf	[Broad climate suitability (environmental versatility)? No] USDA Hardiness zones: 8A-11.
204	1992. Tunison, J.T./Zimmer, N.G.. Success in controlling local alien plants in Hawaii Volcanoes National Park in: Alien plant invasions in native ecosystems of Hawaii: management and research. University, Honolulu http://www.hear.org/books/apineh1992/pdfs	[Native or naturalized in regions with tropical or subtropical climates? Yes] Acca sellowiana was one of the 41 exotic plants that was controlled in Hawaii Volcanoes National Park, because it was spreading.
204	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	[Native or naturalized in regions with tropical or subtropical climates? Yes] Native range: Brazil - Minas Gerais [s.], Parana, Rio Grande do Norte, Rio Grande do Sul, Santa Catarina, Sao Paulo; Argentina - Misiones; Uruguay.
205	1987. Morton, J.. Fruits of warm climates. J.F. Morton, Miami, FL http://www.hort.purdue.edu/newcrop/morton	[Does the species have a history of repeated introductions outside its natural range? Yes] Acca sellowiana was first grown in Europe in the late 1800's. It was introduced to the Riviera, Italy and Spain in the late 1890's. In the early 1900's plants were introduced to California and Jamaica. Plants have been introduced to Chile, the Caribbean, New Zealand, Africa, Russia, Sicily, Portugal, Italy and England.
301	1992. Tunison, J.T./Zimmer, N.G.. Success in controlling local alien plants in Hawaii Volcanoes National Park in: Alien plant invasions in native ecosystems of Hawaii: management and research. University, Honolulu http://www.hear.org/books/apineh1992/pdfs	[Naturalized beyond native range? Yes] Acca sellowiana was spreading in Hawaii Volcanoes National Park. The population was controlled with herbicide and manual methods.
302	2007. Randall, R.P.. Global Compendium of Weeds - Index [Online Database]. http://www.hear.org/gcw/	[Garden/amenity/disturbance weed? No] No evidence.
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	2007. Randall, R.P.. Global Compendium of Weeds - Index [Online Database]. http://www.hear.org/gcw/	[Environmental weed? No] No evidence.
305	2007. Randall, R.P.. Global Compendium of Weeds - Index [Online Database]. http://www.hear.org/gcw/	[Congeneric weed? No] No evidence.

401	1987. Morton, J.. Fruits of warm climates. J.F. Morton, Miami, FL http://www.hort.purdue.edu/newcrop/morton	[Produces spines, thorns or burrs? No] "The plant is a bushy shrub 3 to 20 ft (0.9-6 m) or more in height with pale gray bark; the spreading branches swollen at the nodes and white-hairy when young. The evergreen, opposite, short-petioled, bluntly elliptical leaves are thick, leathery, 1 1/8 to 2 1/2 in (2.8-6.25 cm) long, 5/8 to 1 1/8 in (1.6-2.8 cm) wide; smooth and glossy on the upper surface, finely veiny and silvery-hairy beneath."
402	2011. WRA Specialist. Personal Communication.	[Allelopathic?] Unknown.
403	1987. Morton, J.. Fruits of warm climates. J.F. Morton, Miami, FL http://www.hort.purdue.edu/newcrop/morton	[Parasitic? No] Myrtaceae.
404	2011. WRA Specialist. Personal Communication.	[Unpalatable to grazing animals? Unknown]
405	2011. National Center for Biotechnology Information. PubMed. U.S. National Library of Medicine, Bethesda, Maryland http://www.ncbi.nlm.nih.gov/	[Toxic to animals? No] No evidence of toxicity.
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	1987. Morton, J.. Fruits of warm climates. J.F. Morton, Miami, FL http://www.hort.purdue.edu/newcrop/morton	[Host for recognized pests and pathogens?]" Planting of feijoas has been officially discouraged in New South Wales and Victoria, Australia, because the fruit is a prime host of the fruit fly."
406	1999. Messing R.. Managing fruit flies on farms in Hawaii. Insect Pests. College of Tropical Agriculture and Human Resources University of Hawaii at Manoa, http://www.ctahr.hawaii.edu/oc/freepubs/pdf/IP-4.pdf	[Host for recognized pests and pathogens?] <i>Acca sellowiana</i> is a fruit fly host in Hawaii. "Fruit flies have become serious pests in Hawaii since the first species was found here in about 1895. They are widespread, occurring from sea level to above 7000 ft elevation, and feed on hundreds of host plant species, many of which are economic crops." [No indication that <i>Acca sellowiana</i> will substantially impact current control efforts.]
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 of toxicity.
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 of toxicity.
408	2011. WRA Specialist. Personal Communication.	[Creates a fire hazard in natural ecosystems?] Unknown.
409	1987. Morton, J.. Fruits of warm climates. J.F. Morton, Miami, FL http://www.hort.purdue.edu/newcrop/morton	[Is a shade tolerant plant at some stage of its life cycle?] Can tolerate partial shade.
409	2011. Plants for a Future Database. <i>Acca sellowiana</i> . Plants for a Future Database, http://www.pfaf.org/user/Plant.aspx?LatinName=Acca+sellowiana	[Is a shade tolerant plant at some stage of its life cycle?] Prefers light shade.
410	1987. Morton, J.. Fruits of warm climates. J.F. Morton, Miami, FL http://www.hort.purdue.edu/newcrop/morton	[Tolerates a wide range of soil conditions (or limestone conditions if not a volcanic island)? Yes] "While the shrub is often said to be adapted to a wide range of soil types and in England does well even where there is a high chalk content, it actually prefers rich organic soil and is not very thrifty on light or sandy terrain. Some believe that an acid soil is best but the feijoa has done well on soil with a pH of 6.2."
410	2011. Gilman, E.F./Watson, D.G.. <i>Feijoa sellowiana</i> : Feijoa. University of Florida IFAS Extension, http://edis.ifas.ufl.edu/pdf/ST/ST24900.pdf	[Tolerates a wide range of soil conditions (or limestone conditions if not a volcanic island)? Yes] Soil tolerances: sand; loam; slightly alkaline; acidic; well drained; well-drained.
411	1987. Morton, J.. Fruits of warm climates. J.F. Morton, Miami, FL http://www.hort.purdue.edu/newcrop/morton	[Climbing or smothering growth habit? No] Shrub.
412	2011. WRA Specialist. Personal Communication.	[Forms dense thickets?] Unknown.

501	1987. Morton, J.. Fruits of warm climates. J.F. Morton, Miami, FL http://www.hort.purdue.edu/newcrop/morton	[Aquatic? No] Shrub; terrestrial.
502	1987. Morton, J.. Fruits of warm climates. J.F. Morton, Miami, FL http://www.hort.purdue.edu/newcrop/morton	[Grass? No] Myrtaceae.
503	2005. Staples, G.W./Herbst, D.R.. A Tropical Garden Flora - Plants Cultivated in the Hawaiian Islands and Other Tropical Places. Bishop Museum Press, Honolulu, HI	[Nitrogen fixing woody plant? No] Myrtaceae.
504	1987. Morton, J.. Fruits of warm climates. J.F. Morton, Miami, FL http://www.hort.purdue.edu/newcrop/morton	[Geophyte (herbaceous with underground storage organs -- bulbs, corms, or tubers)? No] Shrub; woody.
601	1987. Morton, J.. Fruits of warm climates. J.F. Morton, Miami, FL http://www.hort.purdue.edu/newcrop/morton	[Evidence of substantial reproductive failure in native habitat? No] "The feijoa is native to extreme southern Brazil, northern Argentina, western Paraguay and Uruguay where it is common wild in the mountains."
602	1987. Morton, J.. Fruits of warm climates. J.F. Morton, Miami, FL http://www.hort.purdue.edu/newcrop/morton	[Produces viable seed? Yes] "Generally grown from seed."
602	2011. Plants for a Future Database. Acca sellowiana. Plants for a Future Database, http://www.pfaf.org/user/Plant.aspx?LatinName=Acca+sellowiana	[Produces viable seed? Yes] Propagate from seed.
603	2011. WRA Specialist. Personal Communication.	[Hybridizes naturally?] Unknown.
604	1987. Morton, J.. Fruits of warm climates. J.F. Morton, Miami, FL http://www.hort.purdue.edu/newcrop/morton	[Self-compatible or apomictic?] Some cultivars are self-compatible.
604	2011. Plants for a Future Database. Acca sellowiana. Plants for a Future Database, http://www.pfaf.org/user/Plant.aspx?LatinName=Acca+sellowiana	[Self-compatible or apomictic?] Plant is not self-fertile.
605	1987. Morton, J.. Fruits of warm climates. J.F. Morton, Miami, FL http://www.hort.purdue.edu/newcrop/morton	[Requires specialist pollinators? No] Bees are the chief pollinator.
606	1987. Morton, J.. Fruits of warm climates. J.F. Morton, Miami, FL http://www.hort.purdue.edu/newcrop/morton	[Reproduction by vegetative fragmentation?] Propagation is usually by seed. Air layering is also used.
606	2005. Staples, G.W./Herbst, D.R.. A Tropical Garden Flora - Plants Cultivated in the Hawaiian Islands and Other Tropical Places. Bishop Museum Press, Honolulu, HI	[Reproduction by vegetative fragmentation? Propagate by seed, cuttings or air layering.
606	2011. WRA Specialist. Personal Communication.	[Reproduction by vegetative fragmentation?] Unknown. [unclear from the literature]
607	1987. Morton, J.. Fruits of warm climates. J.F. Morton, Miami, FL http://www.hort.purdue.edu/newcrop/morton	[Minimum generative time (years)?] Plants produce fruit in 3-5 years from seed.
701	2011. WRA Specialist. Personal Communication.	[Propagules likely to be dispersed unintentionally (plants growing in heavily trafficked areas)?] Unknown.
702	1987. Morton, J.. Fruits of warm climates. J.F. Morton, Miami, FL http://www.hort.purdue.edu/newcrop/morton	[Propagules dispersed intentionally by people? Yes] Plant is grown for its fruit and as an ornamental.
702	2005. Staples, G.W./Herbst, D.R.. A Tropical Garden Flora - Plants Cultivated in the Hawaiian Islands and Other Tropical Places. Bishop Museum Press, Honolulu, HI	[Propagules dispersed intentionally by people? Yes] Widely dispersed in subtropical and tropical regions as an ornamental or fruit tree.
703	2011. WRA Specialist. Personal Communication.	[Propagules likely to disperse as a produce contaminant? No] No evidence.

704	2006. Gressler, E./Pizo, M.A./Morellato, P.C.. Polinizacao e dispersao de sementes em Myrtaceae do Brasil (Pollination and seed dispersal of Brazilian Myrtaceae). Revista Brasil Botany. 29: 509- 530. http://www.scielo.br/pdf/rbb/v29n4/01.pdf	[Propagules adapted to wind dispersal? No] Bird dispersed, fleshy fruit.
705	2006. Gressler, E./Pizo, M.A./Morellato, P.C.. Polinizacao e dispersao de sementes em Myrtaceae do Brasil (Pollination and seed dispersal of Brazilian Myrtaceae). Revista Brasil Botany. 29: 509- 530. http://www.scielo.br/pdf/rbb/v29n4/01.pdf	[Propagules water dispersed?] Unknown.
706	2006. Gressler, E./Pizo, M.A./Morellato, P.C.. Polinizacao e dispersao de sementes em Myrtaceae do Brasil (Pollination and seed dispersal of Brazilian Myrtaceae). Revista Brasil Botany. 29: 509- 530. http://www.scielo.br/pdf/rbb/v29n4/01.pdf	[Propagules bird dispersed? Yes] <i>Acca sellowiana</i> is dispersed by birds in the Brazilian forest.
707	2006. Gressler, E./Pizo, M.A./Morellato, P.C.. Polinizacao e dispersao de sementes em Myrtaceae do Brasil (Pollination and seed dispersal of Brazilian Myrtaceae). Revista Brasil Botany. 29: 509- 530. http://www.scielo.br/pdf/rbb/v29n4/01.pdf	[Propagules dispersed by other animals (externally)? No] <i>Acca sellowiana</i> is dispersed by birds. A fleshy fruit. [no means of external attachment]
708	2006. Gressler, E./Pizo, M.A./Morellato, P.C.. Polinizacao e dispersao de sementes em Myrtaceae do Brasil (Pollination and seed dispersal of Brazilian Myrtaceae). Revista Brasil Botany. 29: 509- 530. http://www.scielo.br/pdf/rbb/v29n4/01.pdf	[Propagules survive passage through the gut? Yes] Birds are dispersers of <i>Acca sellowiana</i> in the Brazilian forest.
801	1987. Morton, J.. Fruits of warm climates. J.F. Morton, Miami, FL http://www.hort.purdue.edu/newcrop/morton	[Prolific seed production (>1000/m ²)? Yes] "The 20-year-old Riviera plant referred to above is said to have borne a crop of 2,000 fruits. There are usually 20 to 40, occasionally as many as 100, very small, oblong seeds hardly noticeable when the fruit is eaten."
802	1987. Morton, J.. Fruits of warm climates. J.F. Morton, Miami, FL http://www.hort.purdue.edu/newcrop/morton	[Evidence that a persistent propagule bank is formed (>1 yr)?]"The seeds will retain viability for a year or more if kept dry."
803	1992. Tunison, J.T./Zimmer, N.G.. Success in controlling local alien plants in Hawaii Volcanoes National Park in: Alien plant invasions in native ecosystems of Hawaii: management and research. University, Honolulu http://www.hear.org/books/apineh1992/pdfs	[Well controlled by herbicides? Yes] <i>Acca sellowiana</i> was naturalizing in Volcanoes National Park, Hawaii. A cut stump treatment using Tordon RTU was used on mature plants. A year later no plants of this species were found in the park.
804	1987. Morton, J.. Fruits of warm climates. J.F. Morton, Miami, FL http://www.hort.purdue.edu/newcrop/morton	[Tolerates, or benefits from, mutilation, cultivation, or fire?] "The feijoa requires little care beyond good soil preparation before planting. Subsequent cultivation is inadvisable because of the plant's shallow, fibrous root system which should be left undisturbed."
805	2011. WRA Specialist. Personal Communication.	[Effective natural enemies present locally (e.g. introduced biocontrol agents)?] Unknown.