

Family: Cactaceae

Taxon: Pereskia bleo

Synonym: Cactus bleo Kunth (basionym) Common Name wax rose
Pereskia corrugata Cutak bleo de chupa
Pereskia panamensis F.A.C. Weber najú de culebra
Rhodocactus bleo (Kunth) F.M. Knuth Rose Cactus
Rhodocactus corrugatus (Cutak) Backeb. Leaf cactus

Questionnaire :	current 20090513	Assessor:	Chuck Chimera	Designation: L
Status:	Assessor Approved	Data Entry Person:	Chuck Chimera	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	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	y
402	Allelopathic		y=1, n=0	n
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	n
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	n
604	Self-compatible or apomictic	y=1, n=-1	n
605	Requires specialist pollinators	y=-1, n=0	n
606	Reproduction by vegetative fragmentation	y=1, n=-1	
607	Minimum generative time (years)	1 year = 1, 2 or 3 years = 0, 4+ years = -1	
701	Propagules likely to be dispersed unintentionally (plants growing in heavily trafficked areas)	y=1, n=-1	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	n
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	n
802	Evidence that a persistent propagule bank is formed (>1 yr)	y=1, n=-1	
803	Well controlled by herbicides	y=-1, n=1	
804	Tolerates, or benefits from, mutilation, cultivation, or fire	y=1, n=-1	y
805	Effective natural enemies present locally (e.g. introduced biocontrol agents)	y=-1, n=1	
Designation: L		WRA Score 0	

Supporting Data:

101	1963. Britton, N.L./Rose, J.N.. The cactaceae: descriptions and illustrations of plants of the cactus family, Volume 1. Dover Publications, New York, NY	No evidence
102	2011. WRA Specialist. Personal Communication.	NA
103	1963. Britton, N.L./Rose, J.N.. The cactaceae: descriptions and illustrations of plants of the cactus family, Volume 1. Dover Publications, New York, NY	NA
201	1963. Britton, N.L./Rose, J.N.. The cactaceae: descriptions and illustrations of plants of the cactus family, Volume 1. Dover Publications, New York, NY	"Distribution: Northwestern South America and throughout Panama."
202	1963. Britton, N.L./Rose, J.N.. The cactaceae: descriptions and illustrations of plants of the cactus family, Volume 1. Dover Publications, New York, NY	"Distribution: Northwestern South America and throughout Panama."
203	2001. Anderson, E.F.. The cactus family. Timber Press, Portland, OR	"Distribution: Panama and Colombia along streams and rivers and in secondary forests, from sea level to 500 m (1600 ft)."
203	2003. Llamas, K.A.. Tropical Flowering Plants. Timber Press, Portland, OR	"zones 10-11"
203	2011. Dave's Garden. PlantFiles: Rose Cactus, Leaf Cactus. http://davesgarden.com/guides/pf/go/84195/	"Hardiness: USDA Zone 9b: to -3.8 °C (25 °F) USDA Zone 10a: to -1.1 °C (30 °F) USDA Zone 10b: to 1.7 °C (35 °F) USDA Zone 11: above 4.5 °C (40 °F)"
204	1963. Britton, N.L./Rose, J.N.. The cactaceae: descriptions and illustrations of plants of the cactus family, Volume 1. Dover Publications, New York, NY	"Distribution: Northwestern South America and throughout Panama."
205	1986. Randhawa, G.S./Mukhopadhyay, A.. Floriculture in India. Allied Publishers, New Delhi, India	Propagated in India
205	2010. The Pereskia Pages. Pereskia bleo. http://winjamz.blog.co.uk/2010/02/27/pereskia-bleo-8084908/	"Its origin is Central America, particularly Panama and Colombia. But generally today can be found growing around the Caribbean countries, and as far south as Brazil."
205	2011. Dave's Garden. PlantFiles: Rose Cactus, Leaf Cactus. http://davesgarden.com/guides/pf/go/84195/	"This plant has been said to grow in the following regions: Jupiter, Florida Saint Petersburg, Florida Summerland Key, Florida Galveston, Texas"
205	2011. The Charles Darwin Foundation. Galapagos Species Checklist - Pereskia bleo. http://www.darwinfoundation.org/datazone/checklists/vascular-plants/magnoliophyta/pereskia-bleo-kunth-dc/	"Pereskia bleo - Taxon introduced for agricultural or domestic use; not naturalized."
301	2007. Randall, R.P.. Global Compendium of Weeds - Pereskia bleo [Online Database]. http://www.hear.org/gcw/species/pereskia_bleo/	Listed as naturalized in the Galapagos, but the Galapagos Species Checklist states it is only cultivated.
301	2011. The Charles Darwin Foundation. Galapagos Species Checklist - Pereskia bleo. http://www.darwinfoundation.org/datazone/checklists/vascular-plants/magnoliophyta/pereskia-bleo-kunth-dc/	"Pereskia bleo - Taxon introduced for agricultural or domestic use; not naturalized."
302	2007. Randall, R.P.. Global Compendium of Weeds - Pereskia bleo [Online Database]. http://www.hear.org/gcw/species/pereskia_bleo/	No evidence
303	2007. Randall, R.P.. Global Compendium of Weeds - Pereskia bleo [Online Database]. http://www.hear.org/gcw/species/pereskia_bleo/	No evidence
304	2007. Randall, R.P.. Global Compendium of Weeds - Pereskia bleo [Online Database]. http://www.hear.org/gcw/species/pereskia_bleo/	No evidence

305	2003. Weber, E.. Invasive Plant Species of the World. A Reference Guide to Environmental Weeds. CABI Publishing, Wallingford, UK	"Pereskia aculeata...has a vigorous vegetative reproduction by means of rooting stem fragments. The plant forms dense and spiny thickets that displace native plants and affect wildlife habitats." [listed as invasive in Southern Africa]
401	1963. Britton, N.L./Rose, J.N.. The cactaceae: descriptions and illustrations of plants of the cactus family, Volume 1. Dover Publications, New York, NY	"A tree, sometimes 7 meters high; trunk 10 cm in diameter or less, when old becoming naked, but young shoots often bear large fascicles of spines (sometimes 25 or more); young branches red, leafy, its spines in fascicles of 5 and 6, but young shoots often bear but 1 to 4..."
401	2011. Dave's Garden. PlantFiles: Rose Cactus, Leaf Cactus. http://davesgarden.com/guides/pf/go/84195/	"Danger: Plant has spines or sharp edges; use extreme caution when handling"
402	2011. WRA Specialist. Personal Communication.	No evidence [ornamental commonly used in landscape]
403	1963. Britton, N.L./Rose, J.N.. The cactaceae: descriptions and illustrations of plants of the cactus family, Volume 1. Dover Publications, New York, NY	"A tree, sometimes 7 meters high" [Cactaceae, not parasitic]
404	2010. Gardening with Wilson. Pereskia bleo – A Leafy Cactus. http://gardeningwithwilson.com/2010/12/28/pereskia-bleo-a-leafy-cactus/	"The leaves of this plant are eaten raw by locals here with the belief that it can prevent or cure one of cancer. Leaves are relatively bland to taste." [no evidence that animals consume plant, but spines likely deter browsing]
405	2010. Gardening with Wilson. Pereskia bleo – A Leafy Cactus. http://gardeningwithwilson.com/2010/12/28/pereskia-bleo-a-leafy-cactus/	"The leaves of this plant are eaten raw by locals here with the belief that it can prevent or cure one of cancer. Leaves are relatively bland to taste." [no evidence of toxicity to humans, or animals]
405	2010. Sim, K.S./Sri Nurestri, A.M./Sinniah, S.K./Kim, K.H./Norhanom, A.W.. Acute oral toxicity of Pereskia bleo and Pereskia grandifolia in mice. Pharmacognosy Magazine. 6(21): 67–70.	"Pereskia bleo and Pereskia grandifolia, belonging to the botanical family Cactaceae, have been traditionally used by the locals in Malaysia for treatment of various ailments. The current study reports the outcome of acute oral toxicity investigation of Pereskia bleo and Pereskia grandifolia, on ICR mice. No mortalities or evidence of adverse effects have been observed in ICR mice following acute oral administration at the highest dose of 2500 mg/ kg crude extracts of Pereskia bleo and Pereskia grandifolia. This is the first report on the acute oral toxicity of Pereskia bleo and Pereskia grandifolia and the findings of this study are in agreement with those of in vitro experiments and thus provide scientific validation on the use of the leaves of Pereskia bleo and Pereskia grandifolia."
406	1963. Britton, N.L./Rose, J.N.. The cactaceae: descriptions and illustrations of plants of the cactus family, Volume 1. Dover Publications, New York, NY	No evidence of associated pests or pathogens
406	1998. Riffle, R.L.. The Tropical Look - An Encyclopedia of Dramatic Landscape Plants. Timber Press, Portland, OR	No evidence of associated pathogens or pests
407	2001. Anderson, E.F.. The cactus family. Timber Press, Portland, OR	"Crushed leaves of Pereskia bleo have been used to clarify drinking water" [and are therefore unlikely to be toxic]
407	2010. Gardening with Wilson. Pereskia bleo – A Leafy Cactus. http://gardeningwithwilson.com/2010/12/28/pereskia-bleo-a-leafy-cactus/	"The leaves of this plant are eaten raw by locals here with the belief that it can prevent or cure one of cancer. Leaves are relatively bland to taste." [no evidence of toxicity]
408	1958. Anonymous. Flora of Panama. Part VII. Fascicle I. Annals of the Missouri Botanical Garden. 45(1): 1-91.	"...stems terete, branching, succulent above, woody below, armed with stout spines in minutely pubescent axillary areoles..." [succulent stems probably reduce risk of fires]
409	2002. Engel, D.H./Phummai, S.. A field guide to tropical plants of Asia. Timber Press, Portland, OR	"Best in full sun and dry soil"
409	2003. Llamas, K.A.. Tropical Flowering Plants. Timber Press, Portland, OR	"Full to part sun."
409	2005. Desert Tropicals. Pereskia bleo. Faucon, P., http://www.desert-tropicals.com/Plants/Cactaceae/Pereskia_bleo.html	"Sun Exposure: Morning sun or bright shade"

409	2010. Gardening with Wilson. <i>Pereskia bleo</i> – A Leafy Cactus. http://gardeningwithwilson.com/2010/12/28/pereskia-bleo-a-leafy-cactus/	"this cactus is a leafy cactus that is not a desert adapted plant like many other leafless cacti we are familiar with – it grows in the shady and moist forests of Central America. This probably explains why specimens grown in hot and sunny spots often become yellow and stunted. Desert cacti have lost all their leaves to avoid excessive loss of water via transpiration."
409	2011. Gardino Nursery. Rare and Unusual Plants - <i>Pereskia bleo</i> . http://www.rareflora.com/pereskiable.htm	"Light Requirements : shade"
410	2011. Dave's Garden. PlantFiles: Rose Cactus, Leaf Cactus. http://davesgarden.com/guides/pf/go/84195/	"Soil pH requirements: 6.1 to 6.5 (mildly acidic) 6.6 to 7.5 (neutral) 7.6 to 7.8 (mildly alkaline)"
410	2011. Hortiopia Inc.. <i>Pereskia bleo</i> - Leaf Cactus, Blade Apple. http://www.hortiopia.com/hortpix/html/perble000.htm	"Soil pH requirements: Acidic, neutral, alkaline, slightly alkaline; Soil type: Sandy, clay, loamy"
410	2011. Plant This. <i>Pereskia bleo</i> . http://www.plantthis.co.nz/plant-information.asp?gardener=20121&tabview=hazard&plantSpot=0#	"Soil: ordinary soil, enriched soil, mildly acidic to mildly alkaline"
411	1963. Britton, N.L./Rose, J.N.. The cactaceae: descriptions and illustrations of plants of the cactus family, Volume 1. Dover Publications, New York, NY	"A tree, sometimes 7 meters high" [not climbing or smothering]
411	1998. Riffle, R.L.. The Tropical Look - An Encyclopedia of Dramatic Landscape Plants. Timber Press, Portland, OR	"...a large shrub or small tree without much tendency to climb."
412	1958. Anonymous. Flora of Panama. Part VII. Fascicle I. Annals of the Missouri Botanical Garden. 45(1): 1-91.	No evidence
412	1963. Britton, N.L./Rose, J.N.. The cactaceae: descriptions and illustrations of plants of the cactus family, Volume 1. Dover Publications, New York, NY	No evidence
501	1963. Britton, N.L./Rose, J.N.. The cactaceae: descriptions and illustrations of plants of the cactus family, Volume 1. Dover Publications, New York, NY	"A tree, sometimes 7 meters high" [Cactaceae, terrestrial]
502	1963. Britton, N.L./Rose, J.N.. The cactaceae: descriptions and illustrations of plants of the cactus family, Volume 1. Dover Publications, New York, NY	Cactaceae
503	1963. Britton, N.L./Rose, J.N.. The cactaceae: descriptions and illustrations of plants of the cactus family, Volume 1. Dover Publications, New York, NY	Cactaceae [not a nitrogen fixing woody plant]
504	1963. Britton, N.L./Rose, J.N.. The cactaceae: descriptions and illustrations of plants of the cactus family, Volume 1. Dover Publications, New York, NY	"A tree, sometimes 7 meters high" [Cactaceae, not a geophyte]
601	1958. Anonymous. Flora of Panama. Part VII. Fascicle I. Annals of the Missouri Botanical Garden. 45(1): 1-91.	No evidence of substantial reproductive failure in native habitat
601	1997. Oldfield, S.. Cactus and Succulent Plants - Status Survey and Conservation Action Plan.. IUCN, Gland, Switzerland	"There is also the remarkable woody, terrestrial cactus, <i>Pereskia bleo</i> , from Panama and Colombia (Leuenberger 1986) which again is not threatened (Leuenberger, in Zitt 1993). In Panama its range appears to include various protected forest areas (WCMC 1992)."
602	1963. Britton, N.L./Rose, J.N.. The cactaceae: descriptions and illustrations of plants of the cactus family, Volume 1. Dover Publications, New York, NY	"fruit yellow, truncate, 5 to 6 mm long; seed 6 mm long, black, shining"
602	2011. Dave's Garden. PlantFiles: Rose Cactus, Leaf Cactus. http://davesgarden.com/guides/pf/go/84195/	"Propagation Methods: From woody stem cuttings From seed; direct sow after last frost. Seed Collecting: Allow unblemished fruit to ripen; clean and dry seeds Unblemished fruit must be significantly overripe before harvesting seed; clean and dry seeds Properly cleaned, seed can be successfully stored"

603	1986. Leuenberger, B.E.. <i>Pereskia</i> (Cactaceae). <i>Memoirs of the New York Botanical Garden</i> . 41: 1-141.	"No natural hybrids of <i>Pereskia</i> have been reported. Under experimental conditions, however, hybridization is possible between some closely related taxa. Others seem to be incompatible in so far as evidence from the few cross-pollination experiments between flowering specimens available at the Berlin-Dahlem Botanical Garden."
604	1986. Leuenberger, B.E.. <i>Pereskia</i> (Cactaceae). <i>Memoirs of the New York Botanical Garden</i> . 41: 1-141.	"All <i>Pereskia</i> species are basically self sterile although Ross (1981) reported that self pollination produces seed in <i>P. diaz romeroana</i> , a species observed by the author to occasionally set fruit without cross pollination. In other species self pollination rarely yields fruit. However, in these cases the fruits are then often underdeveloped, seedless or few-seeded."
605	1963. Britton, N.L./Rose, J.N.. <i>The cactaceae: descriptions and illustrations of plants of the cactus family</i> , Volume 1. Dover Publications, New York, NY	"...calyx turbinate, somewhat angled, naked, with linear deciduous sepals; petals 12 to 15, rose-colored, obovate, 3.5 cm long; style longer than the stamens, red, thick; stigma-lobes 5 to 7; ovary depressed..."
605	1986. Leuenberger, B.E.. <i>Pereskia</i> (Cactaceae). <i>Memoirs of the New York Botanical Garden</i> . 41: 1-141.	"Rowley (1980) summarized the pollination syndromes in cactus flowers with reference to both earlier (Porsch, 1938- 1939) and recent (Grant & grant, 1979) works. Floral syndromes in <i>Pereskia</i> , with two exceptions, include diurnal opening time, various colors, scent faint or none, pollen abundant and freely exposed, nectar freely exposed or absent, size various, profile flat. These characters suggest unselective pollination, but unfortunately direct observations are scarce. Porsch (1938, pp36, 42) mentioned <i>P. aculeata</i> and <i>p. grandiflora</i> as unselective and <i>P. lychnidiflora</i> (as <i>P. nicoyana</i>) as having bee flowers. The latter observation is confirmed by the author, based on sightings in the field in Guatemala in 1978, and also documented by a photograph."
606	2003. Weber, E.. <i>Invasive Plant Species of the World. A Reference Guide to Environmental Weeds</i> . CABI Publishing, Wallingford, UK	" <i>Pereskia aculeata</i> ...has a vigorous vegetative reproduction by means of rooting stem fragments."
606	2011. Dave's Garden. <i>PlantFiles: Rose Cactus, Leaf Cactus</i> . http://davesgarden.com/guides/pf/go/84195/	"Propagation Methods: From woody stem cuttings From seed; direct sow after last frost. Seed Collecting: Allow unblemished fruit to ripen; clean and dry seeds Unblemished fruit must be significantly overripe before harvesting seed; clean and dry seeds Properly cleaned, seed can be successfully stored" [Although the species can be propagated vegetatively, no evidence of natural spread by vegetative means.]
607	1998. Riffle, R.L.. <i>The Tropical Look - An Encyclopedia of Dramatic Landscape Plants</i> . Timber Press, Portland, OR	"It can be trained to an attractive standard, growing to as much as 25 feet, but this requires maintenance as the plants grow fast and tend to produce branches from almost any part of the trunk."
607	2011. Hortiopia Inc.. <i>Pereskia bleo - Leaf Cactus, Blade Apple</i> . http://www.hortiopia.com/hortpix/html/perble000.htm	"Growth rate: Slow"
607	2011. Plant This. <i>Pereskia bleo</i> . http://www.plantthis.co.nz/plant-information.asp?gardener=20121&tabview=hazard&plantSpot=0#	"Growth rate: average"
607	2011. WRA Specialist. Personal Communication.	Time to reproductive maturity unknown
701	1963. Britton, N.L./Rose, J.N.. <i>The cactaceae: descriptions and illustrations of plants of the cactus family</i> , Volume 1. Dover Publications, New York, NY	"fruit yellow, truncate, 5 to 6 mm long; seed 6 mm long, black, shining" [no evidence that propagules are unintentionally dispersed, and seeds with no means of external attachment]
702	2003. Llamas, K.A.. <i>Tropical Flowering Plants</i> . Timber Press, Portland, OR	Grown ornamentally
703	1963. Britton, N.L./Rose, J.N.. <i>The cactaceae: descriptions and illustrations of plants of the cactus family</i> , Volume 1. Dover Publications, New York, NY	"fruit yellow, truncate, 5 to 6 mm long; seed 6 mm long, black, shining" [seeds fairly large & unlikely to contaminate produce]
703	2011. WRA Specialist. Personal Communication.	Probably not - no evidence that the species grows near seed crops
704	1963. Britton, N.L./Rose, J.N.. <i>The cactaceae: descriptions and illustrations of plants of the cactus family</i> , Volume 1. Dover Publications, New York, NY	"fruit yellow, truncate, 5 to 6 mm long; seed 6 mm long, black, shining" [fleshy-fruited, no adaptations for wind dispersal]

705	2004. Link, A./Stevenson, P.R.. Fruit dispersal syndromes in animal disseminated plants at Tinigua National Park, Colombia. <i>Revista Chilena de Historia Natural</i> . 77: 319-334.	"Animal dispersed" [no evidence, & unlikely to be water dispersed]
706	2001. Anderson, E.F.. <i>The cactus family</i> . Timber Press, Portland, OR	"Fruits berries 4-5 cm (1.6-2 in) long and in diameter, naked or with one or two bracts on the rim, yellow at maturity." [fleshy-fruited, & presumably bird or vertebrate dispersed]
706	2004. Link, A./Stevenson, P.R.. Fruit dispersal syndromes in animal disseminated plants at Tinigua National Park, Colombia. <i>Revista Chilena de Historia Natural</i> . 77: 319-334.	"APPENDIX 1: Animal dispersed plant species in Tinigua National Park, that were included in the analyses of dispersal syndromes. The columns show the morphological traits for each plant species. Fruit size refers to the largest dimension of the fruit (width or length)" [list include <i>Pereskia bleo</i>]
707	1963. Britton, N.L./Rose, J.N.. <i>The cactaceae: descriptions and illustrations of plants of the cactus family</i> , Volume 1. Dover Publications, New York, NY	"fruit yellow, truncate, 5 to 6 mm long; seed 6 mm long, black, shining" [No evidence that the propagules have any means of attachment]
708	1958. Anonymous. <i>Flora of Panama</i> . Part VII. Fascicle I. <i>Annals of the Missouri Botanical Garden</i> . 45(1): 1-91.	"Berry turbinate, 5-6 cm. long and broad, with several more or less persistent bracts, yellow when ripe" [fleshy-fruited, & presumably adapted for passage through the guts of birds or other vertebrates]
801	1958. Anonymous. <i>Flora of Panama</i> . Part VII. Fascicle I. <i>Annals of the Missouri Botanical Garden</i> . 45(1): 1-91.	"Fruit a fleshy relatively few-seeded berry bearing the marcescent remains of the perianth"
802	2011. WRA Specialist. Personal Communication.	Unknown. No information found on seed longevity.
803	2011. WRA Specialist. Personal Communication.	Unknown. No information regarding control of this species was found.
804	2010. Gardening with Wilson. <i>Pereskia bleo</i> – A Leafy Cactus. http://gardeningwithwilson.com/2010/12/28/pereskia-bleo-a-leafy-cactus/	" <i>Pereskia bleo</i> can grow into a small, woody but prickly tree of about 2 m in height. It can take relatively hard pruning which can be employed to help keep it small and manageable." [tolerates hard pruning]
805	2011. WRA Specialist. Personal Communication.	Unknown