

Family: *Solanaceae*

Taxon: *Capsicum annuum*

Synonym: *Capsicum annuum* var. *acuminatum* Fingerh
Capsicum annuum var. *cerasiforme* (Mill.) Iri
Capsicum annuum var. *conooides* (Mill.) Irish
Capsicum annuum var. *fasciculatum* (Sturtev.
Capsicum annuum var. *grossum* (L.) Sendtn
Capsicum annuum var. *longum* Sendtn
Capsicum cerasiforme Mill.
Capsicum conooides Mill.
Capsicum frutescens var. *cerasiforme* (Mill.) .
Capsicum frutescens var. *conooides* (Mill.) L. 1
Capsicum frutescens var. *conooides* (Mill.) L. 1
Capsicum frutescens var. *fasciculatum* (Sturte
Capsicum frutescens var. *grossum* (L.) L. H. 1
Capsicum frutescens var. *longum* (Sendtn.) L.
Capsicum grossum L
Capsicum petenense Standl.

Common Name: American bird pepper
bell pepper
bird pepper
capsicum pepper
Cayenne pepper
cherry pepper
chili pepper
long pepper
sweet pepper

Questionnaire :	current 20090513	Assessor:	Patti Clifford	Designation:	L
Status:	Assessor Approved	Data Entry Person:	Patti Clifford	WRA Score	1
101	Is the species highly domesticated?	y=-3, n=0	y		
102	Has the species become naturalized where grown?	y=1, n=-1			
103	Does the species have weedy races?	y=1, n=-1	y		
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	n		
402	Allelopathic	y=1, n=0			

403	Parasitic	y=1, n=0	n
404	Unpalatable to grazing animals	y=1, n=-1	y
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	
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	n
410	Tolerates a wide range of soil conditions (or limestone conditions if not a volcanic island)	y=1, n=0	n
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	y
604	Self-compatible or apomictic	y=1, n=-1	y
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	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	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	n
805	Effective natural enemies present locally (e.g. introduced biocontrol agents)	y=-1, n=1	

Designation: L

WRA Score 1

Supporting Data:

101	1993. Eshbaugh, W.H.. Peppers: history and exploitation of a serendipitous new crop discovery In: J. Janick and J.E. Simon (eds.) New crops. Wiley, New York http://www.hort.purdue.edu/newcrop/proceedings1993/V2-132.html	[Is the species highly domesticated? Yes] "Capsicum annuum is the best known domesticated species in the world. Since the time of Columbus, it has spread to every part of the globe. The non-pungent form, bell pepper, is widely used as a green vegetable. Another non-pungent form, "pimento," is also present throughout much of the globe. The hot spicy forms of this species have come to dominate the spicy foods within Latin America and the rest of the world. Capsicum annuum probably became the dominant pepper globally in part because it was the first pepper discovered by Columbus and other New World explorers. This taxon was the first Capsicum species taken to Europe and quickly spread to other regions."
101	1996. Bosland, P.W.. Capsicums: Inovative uses of an ancient crop. In: J. Janick (ed.) Progress in new crops. ASHS Press, Arlington http://www.hort.purdue.edu/newcrop/proceedings1996/V3-479.html	[Is the species highly domesticated? Yes] "Capsicum has been known since the beginning of civilization in the Western Hemisphere. It has been a part of the human diet since about 7500 BC. It was the ancient ancestors of the native peoples who took the wild chile piquin and selected for the many various types known today. Heiser (1976) states that apparently between 5200 and 3400 BC, the Native Americans were growing chile plants. This places chiles among the oldest cultivated crops of the Americas. As opposed to most domesticated crops, the wild ancestral chiles are not looked upon as worthless or inferior by farming people who cultivate their domestic decedents. The wild Capsicum annuum var. aviculare is harvested and sold in the marketplace along side the larger-fruited domesticated chiles. Capsicum was domesticated at least five times by prehistoric peoples in different parts of South and Middle America. The five domesticated species are C. annuum L., C. baccatum L., C. chinense Jacq., C. frutescens L., and C. pubescens R. & P." [bred for millenium for improved fruit]
102	1999. Wagner, W.L./Herbst, D.R./Sohmer, S.H.. Manual of the flowering plants of Hawaii. Revised edition.. University of Hawai'i Press and Bishop Museum Press, Honolulu, HI.	[Has the species become naturalized where grown? Unknown] Capsicum frutescence is listed as naturalized in Hawaii. [Some taxonomic sources list Capsicum frutescence as a synonym of C. annuum or as in a species complex.]
102	2012. WRA Specialist. Personal Communication.	[Has the species become naturalized where grown? Unknown] Information on naturalization of Capsicum annuum is not available. The Global Compendium of Weeds lists it as naturalized in several places.
103	2009. Kraft, K.H.. The domestication of the chile pepper, Capsicum annuum: genetic, ecological, and anthropogenic patterns of genetic diversity.	[Does the species have weedy races? Yes] For both C. baccatum and C. annuum there exist uncultivated forms with small, erect deciduous fruits that are dispersed by birds and other agents. These forms occur as agricultural weeds or in other disturbed locations such as roadsides, river margins and forest edges. Taxonomically, they are recognized as distinct varieties – C. annuum var. glabriusculum is the wild species, whereas C. annuum var. annuum is the cultivated species.."
201	2012. USDA ARS National Genetic Resources Program. Germplasm Resources Information Network - (GRIN). 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"? 2 - High] Native region: United States - Florida, Georgia, Louisiana, Texas, Arizona; Anguilla; Bahamas; Barbados; Cayman Islands; Dominica; Dominican Republic; Grenada; Guadeloupe; Haiti; Jamaica; Martinique; Montserrat; Netherlands Antilles; Puerto Rico; St. Kitts and Nevis; St. Lucia; St. Vincent and Grenadines; Belize; Costa Rica; Guatemala; Honduras; Nicaragua; Panama; Columbia.
202	2012. USDA ARS National Genetic Resources Program. Germplasm Resources Information Network - (GRIN). http://www.ars-grin.gov/cgi-bin/npgs/html/index.pl	[Quality of climate match data? 2 - High] Native region: United States - Florida, Georgia, Louisiana, Texas, Arizona; Anguilla; Bahamas; Barbados; Cayman Islands; Dominica; Dominican Republic; Grenada; Guadeloupe; Haiti; Jamaica; Martinique; Montserrat; Netherlands Antilles; Puerto Rico; St. Kitts and Nevis; St. Lucia; St. Vincent and Grenadines; Belize; Costa Rica; Guatemala; Honduras; Nicaragua; Panama; Columbia.

203	1984. Simon, J.E./Chadwick, A.F./Craker, L.E.. Herbs: an indexed bibliography 1971-1980. The scientific literature on selected herbs, and aromatic medicinal plants of the temperate zone.. Archon Books, Hamden, CT. http://www.hort.purdue.edu/newcrop/med-ar	[Broad climate suitability (environmental versatility)? No] The reported life zone for capsicum peppers is 7 to 29 degrees centigrade with an annual precipitation of 0.3 to 4.6 meters.
203	2005. Guzman, F.A./Ayala, H./Azurdia, C./Duque, M.C./ de Vicente, M.C.. AFLP assessment of genetic diversity of Capsicum genetic resources in Guatemala: Home gardens as an option for conservation. Crop Science. 45: 363-340.	[Broad climate suitability (environmental versatility)? No] Collections of Capsicum annuum were gathered from home gardens and government germplasm collections In Guatemala. The specimens were gathered from altitudes of 50 m to 1900 m. These were cultivated and semi-cultivated specimens.
203	2012. Missouri Botanical Gardens. Capsicum annuum [Accessed 27 November 2012]. http://www.missouribotanicalgarden.org/gardens-gardening/your-garden/plant-finder/plant-details/kc/a685/capsicum-annuum-hot-pepper-group.aspx	[Broad climate suitability (environmental versatility)?] USDA zones: 9-11.
204	2012. USDA ARS National Genetic Resources Program. Germplasm Resources Information Network - (GRIN). http://www.ars-grin.gov/cgi-bin/npgs/html/index.pl	[Native or naturalized in regions with tropical or subtropical climates? Yes] Native region: United States - Florida, Georgia, Louisiana, Texas, Arizona; Anguilla; Bahamas; Barbados; Cayman Islands; Dominica; Dominican Republic; Grenada; Guadeloupe; Haiti; Jamaica; Martinique; Montserrat; Netherlands Antilles; Puerto Rico; St. Kitts and Nevis; St. Lucia; St. Vincent and Grenadines; Belize; Costa Rica; Guatemala; Honduras; Nicaragua; Panama; Columbia.
205	1993. Eshbaugh, W.H.. Peppers: history and exploitation of a serendipitous new crop discovery In: J.Janick and J.E. Simon (eds.) New crops. Wiley, New York http://www.hort.purdue.edu/newcrop/proceedings1993/V2-132.html	[Does the species have a history of repeated introductions outside its natural range? Yes] "Capsicum annuum is the best known domesticated species in the world. Since the time of Columbus, it has spread to every part of the globe. The non-pungent form, bell pepper, is widely used as a green vegetable. Another non-pungent form, "pimento," is also present throughout much of the globe. The hot spicy forms of this species have come to dominate the spicy foods within Latin America and the rest of the world. Capsicum annuum probably became the dominant pepper globally in part because it was the first pepper discovered by Columbus and other New World explorers. This taxon was the first Capsicum species taken to Europe and quickly spread to other regions."
205	2008. Royal Botanic Gardens Kew. Seed Information Database (SID). Version 7.1. http://data.kew.org/sid/	[Does the species have a history of repeated introductions outside its natural range? Yes] Numerous varieties were known to the Aztecs in Mexico before the Spanish arrived. Christopher Columbus brought seeds to Europe, and Capsicum annuum began to be planted extensively in Portuguese colonies in Africa, India and Asia. It is now grown around the world, both commercially and domestically.
301	1999. Wagner, W.L./Herbst, D.R./Sohmer, S.H.. Manual of the flowering plants of Hawaii. Revised edition.. University of Hawai'i Press and Bishop Museum Press, Honolulu, HI.	Has the species become naturalized where grown? Unknown] Capsicum frutescens is listed as naturalized in Hawaii. [Some taxonomic sources list Capsicum frutescens as a synonym of C. annuum or as in a species complex.]
301	2012. WRA Specialist. Personal Communication.	[Naturalized beyond native range? Unknown] Information on naturalization of Capsicum annuum is not available. The Global Compendium of Weeds lists it as naturalized in several places.
302	2012. WRA Specialist. Personal Communication.	[Garden/amenity/disturbance weed? No] No evidence available that mentions economic or environmental impact.
303	2012. WRA Specialist. Personal Communication.	[Agricultural/forestry/horticultural weed? No] No evidence available that mentions environmental or economic impact.
304	2012. WRA Specialist. Personal Communication.	[Environmental weed? No] No evidence that mentions environmental or economic impacts.
305	2012. WRA Specialist. Personal Communication.	[Congeneric weed? No] No evidence of another species in the Capsicum genus that has negative impacts on the environment, economics or human health of an area.
401	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	[Produces spines, thorns or burrs? No] Unarmed.
402	2012. WRA Specialist. Personal Communication.	[Allelopathic? Unknown] There are experiments using leachates of Capsicum that are lab-based.
403	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	[Parasitic? No] Not a parasitic family.

403	2010. Nickrent, D.. The parasitic plant connection. Department of Plant Biology, Southern Illinois University, Carbondale http://www.parasiticplants.siu.edu/index.html	[Parasitic? No] Not a parasitic family.
404	2012. Pollman's tours and safaris ltd. Community sustainable development project Msorong village.	[Unpalatable to grazing animals? Yes] "Capsaicin found in Pepper making it hot is obtained from the dried fruits from the family Solanaceae, (e.g. Capsicum frutescens or Capsicum annum) making peppers unpalatable to animals. These varieties are grown either as an annual or perennial in tropical areas and the plant can produce fruits up to 3 years. Pepper is more intensive and requires less land and has relatively low input costs with high yields per hectare, does not exhaust soil nutrients and is drought resistant. On the edge of the grown staple crop, Pepper is planted as a hedge enclosing the crop buffering it from animal raids."
405	2008. Wagstaff, D.J.. International poisonous plants checklist: an evidence-based reference. CRC Press, Boca Raton, FL http://books.google.com/books?id=h7tb-5ZAQ8C&pg=PA17&lpg=PA17&dq=International+poisonous+plants+checklist:+an+evidence-based+reference&	[Toxic to animals? No] There is not evidence of toxicity of Capsicum annum, when intentionally eaten by an animal.
405	2009. Cornell University. Plants Poisonous to Livestock and other Animals. Department of Animal Science, http://www.ansci.cornell.edu/plants/index.html	[Toxic to animals?] No information found on the Cornell University plants poisonous to livestock database.
405	2012. Pollman's tours and safaris ltd. Community sustainable development project Msorong village.	[Toxic to animals?] "Capsaicin found in Pepper making it hot is obtained from the dried fruits from the family Solanaceae, (e.g. Capsicum frutescens or Capsicum annum) making peppers unpalatable to animals. These varieties are grown either as an annual or perennial in tropical areas and the plant can produce fruits up to 3 years. Pepper is more intensive and requires less land and has relatively low input costs with high yields per hectare, does not exhaust soil nutrients and is drought resistant. On the edge of the grown staple crop, Pepper is planted as a hedge enclosing the crop buffering it from animal raids."
406	2012. Missouri Botanical Gardens. Capsicum annum [Accessed 27 November 2012]. http://www.missouribotanicalgarden.org/gardens-gardening/your-garden/plant-finder/plant-details/kc/a685/capsicum-annuum-hot-pepper-group.aspx	[Host for recognized pests and pathogens?] Potential pests include aphids, white flies, cutworms, pepper maggots, and Colorado potato beetles. Diseases include Verticillium wilt and mosaic virus.
406	2012. WRA Specialist. Personal Communication.	[Host for recognized pests and pathogens? Unknown]

407	1984. Simon, J.E./Chadwick, A.F./Craker, L.E.. Herbs: an indexed bibliography 1971-1980. The scientific literature on selected herbs, and aromatic medicinal plants of the temperate zone.. Archon Books, Hamden, CT. http://www.hort.purdue.edu/newcrop/med-ar	[Causes allergies or is otherwise toxic to humans?] "Capsicum species are used fresh or dried, whole or ground, and alone or in combination with other flavoring agents. Capsicum annuum L. is used in sweet bell peppers, paprika, pimento, and other red pepper products. Capsicum frutescens L. is used in tabasco, tabasco sauce, and other red chili pepper. Fruits of Capsicum annuum L., paprika types, are widely used as coloring agents. The extracts of Capsicum species have been reported to have antioxidant properties. Paprika is derived from Capsicum annuum L. and is used primarily in the flavoring of garnishes, pickles, meats, barbecue sauces, ketchup, cheese, snack food, dips, chili con carne, salads, and sausages. Spanish paprika is called pimento and is generally used for coloring purposes. Chillies and chili pepper from cultivars of Capsicum annuum L. and Capsicum frutescens L. are employed as a flavoring in many foods, such as curry powder and tabasco sauce. Chili powder is a blend of spices that includes ground chillies. Red or hot peppers from Capsicum annuum L. and Capsicum frutescens L. are the most pungent peppers and are used extensively in Mexican and Italian foods. Cayenne pepper is the ground product derived from the smaller, most pungent Capsicum species." " As a medicinal plant, the Capsicum species has been used as a carminative, digestive irritant, stomachic, stimulant, rubefacient, and tonic. The plants have also been used as folk remedies for dropsy, colic, diarrhea, asthma, arthritis, muscle cramps, and toothache. Capsicum frutescens L. has been reported to have hypoglycemic properties. Prolonged contact with the skin may cause dermatitis and blisters, while excessive consumption can cause gastroenteritis and kidney damage. Paprika and cayenne pepper may be cytotoxic to mammalian cells in vitro (7.8-25). Consumption of red pepper may aggravate symptoms of duodenal ulcers. High levels of ground hot pepper have induced stomach ulcers and cirrhosis of the liver in laboratory animals. Body temperature, flow of saliva, and gastric juices may be stimulated by capsicum peppers. Capsicum annuum L. and Capsicum frutescens L. are generally recognized as safe for human consumption as spices/natural flavorings and as plant extracts/oleoresins."
407	1997. Russell, A. B./Hardin, J.W./Grand, L./Fraser, A.. Poisonous plants of North Carolina [online resource]. University of North Carolina, http://www.ces.ncsu.edu/depts/hort/consumer/poison/Capsian.htm	[Causes allergies or is otherwise toxic to humans?] Toxic only if large quantities eaten. Causes severe pain in the mouth if eaten. Skin irritation minor, or lasting only for a few minutes.
407	2002. European Commission - Helath & Consumer Protection Directorate-General. Opinion of the Scientific Committee on Food on Capsaicin.	[Causes allergies or is otherwise toxic to humans?] "The human intake of capsaicinoids in India, Thailand and Mexico, where capsicum spices are heavily consumed, has been estimated to be 25 – 200 mg/day. The high consumption of chillies in Mexico and India was reported to be associated with cancer of the upper digestive tract. In contrast, the maximum daily intake from mild chillies and paprika in Europe was roughly estimated to be 1.5 mg/day. In the one study conducted in Europe, no increase in the incidence of gastric cancer was found in association with occasional and lower intakes of chillies."
407	2008. Douglas, S.. Allergic reactions to bell peppers. http://www.helium.com/items/914513-allergic-reactions-to-bell-peppers	[Causes allergies or is otherwise toxic to humans?] According to this website, about 4% of people are allergic to Capsicum annuum. There is also a correlation with allergies to latex.
407	2008. Wagstaff, D.J.. International poisonous plants checklist: an evidence-based reference. CRC Press, Boca Raton, FL http://books.google.com/books?id=h7td-5ZAQ8C&pg=PA17&lpg=PA17&dq=International+poisonous+plants+checklist:+an+evidence-based+reference&	[Causes allergies or is otherwise toxic to humans?] There is evidence that some people are sensitive to the ingestion of Capsicum annuum.
408	2012. WRA Specialist. Personal Communication.	[Creates a fire hazard in natural ecosystems? No] No evidence of biomass accumulation or chemical constituents that would promote fires.
409	2012. Missouri Botanical Gardens. Capsicum annuum [Accessed 27 November 2012]. http://www.missouribotanicalgarden.org/gardens-gardening/your-garden/plant-finder/plant-details/kc/a685/capsicum-annuum-hot-pepper-group.aspx	[Is a shade tolerant plant at some stage of its life cycle? No] Full sun.
409	2012. www.learn2grow.com. Capsicum annuum. http://www.learn2grow.com/plants/capsicum-annuum/	[Is a shade tolerant plant at some stage of its life cycle? No] Full sun.

410	1984. Simon, J.E./Chadwick, A.F./Craker, L.E.. Herbs: an indexed bibliography 1971-1980. The scientific literature on selected herbs, and aromatic medicinal plants of the temperate zone.. Archon Books, Hamden, CT. http://www.hort.purdue.edu/newcrop/med-ar	[Tolerates a wide range of soil conditions (or limestone conditions if not a volcanic island)?] Soil pH 4.3-8.7. Prefer well-drained, sandy or silt-loam soil.
410	2012. Missouri Botanical Gardens. Capsicum annuum [Accessed 27 November 2012]. http://www.missouribotanicalgarden.org/gardens-gardening/your-garden/plant-finder/plant-details/kc/a685/capsicum-annuum-hot-pepper-group.aspx	[Tolerates a wide range of soil conditions (or limestone conditions if not a volcanic island)? No] Fertile, well-drained soil.
410	2012. www.learn2grow.com . Capsicum annuum. http://www.learn2grow.com/plants/capsicum-annuum/	[Tolerates a wide range of soil conditions (or limestone conditions if not a volcanic island)? No] Soil pH is neutral, type is loam and well-drained.
411	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	[Climbing or smothering growth habit? No] Herbaceous to small shrub.
412	2012. WRA Specialist. Personal Communication.	[Forms dense thickets? Unknown] Most Capsicum annuum are known from domestic plantings.
501	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	[Aquatic? No] Terrestrial.
502	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	[Grass? No] Solanaceae.
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] Herbaceous; Solanaceae.
504	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	[Geophyte (herbaceous with underground storage organs -- bulbs, corms, or tubers)? No] No underground storage units.
601	2009. Kraft, K.H.. The domestication of the chile pepper, <i>Capsicum annuum</i> : genetic, ecological, and anthropogenic patterns of genetic diversity.	[Evidence of substantial reproductive failure in native habitat? No] Domesticated. There are wild species. [no evidence]
602	1984. Simon, J.E./Chadwick, A.F./Craker, L.E.. Herbs: an indexed bibliography 1971-1980. The scientific literature on selected herbs, and aromatic medicinal plants of the temperate zone.. Archon Books, Hamden, CT. http://www.hort.purdue.edu/newcrop/med-ar	[Produces viable seed? Yes] Plantings are established by seeding or transplanting.
603	1996. Bosland, P.W.. Capsicums: Inovative uses of an ancient crop. In: J. Janick (ed.) Progress in new crops. ASHS Press, Arlington http://www.hort.purdue.edu/newcrop/proceedings1996/V3-479.html	[Hybridizes naturally? Yes] The five domesticated species (includes <i>Capsicum annuum</i>), have close wild relatives with which they cross readily, producing viable and fertile hybrids.
603	2008. Royal Botanic Gardens Kew. Seed Information Database (SID). Version 7.1. http://data.kew.org/sid/	[Hybridizes naturally? Yes] The varieties and cultivars of <i>Capsicum annuum</i> are classified on the basis of their fruit shapes. There are so many different kinds (several thousand) that nobody knows exactly how many there are. More and more local variants are appearing in cultivation across the world because existing varieties cross-pollinate easily.
604	1996. Bosland, P.W.. Capsicums: Inovative uses of an ancient crop. In: J. Janick (ed.) Progress in new crops. ASHS Press, Arlington http://www.hort.purdue.edu/newcrop/proceedings1996/V3-479.html	[Self-compatible or apomictic? Yes] "Chile plants are considered a self-pollinating crop. However, the rates of out-crossing (7% to 91%) recorded by several investigators argue that <i>Capsicum</i> should be considered to be facultative cross-pollinating species in field research. The out-crossing is associated with natural insect pollinators. The amount of cross-pollination has an effect not only on the precautions needed for seed production, but also on the breeding methodologies used by the plant breeder. Natural pollinators such as insects must be excluded to insure self-pollination."

605	1996. Bosland, P.W.. Capsicums: Inovative uses of an ancient crop. In: J. Janick (ed.) Progress in new crops. ASHS Press, Arlington http://www.hort.purdue.edu/newcrop/proceedings1996/V3-479.html	[Requires specialist pollinators? No] Self-compatible species.
605	2006. Winter, K./Adams, L./Thorp, R./Inouye, D./Day, L./Ascher, J./Buchmann, S.. Importation of non-native bumble bees into North America: Potential consequences of using <i>Bombus terrestris</i> and other non-native bumble bees for greenhouse crop pollination i	[Requires specialist pollinators? No] <i>Bombus</i> species are used to pollinate greenhouse <i>Capsicum annuum</i> .
606	2012. WRA Specialist. Personal Communication.	[Reproduction by vegetative fragmentation? Unknown]
607	1984. Simon, J.E./Chadwick, A.F./Craker, L.E.. Herbs: an indexed bibliography 1971-1980. The scientific literature on selected herbs, and aromatic medicinal plants of the temperate zone.. Archon Books, Hamden, CT. http://www.hort.purdue.edu/newcrop/med-ar	[Minimum generative time (years)? 1] Herbaceous annual.
701	2012. WRA Specialist. Personal Communication.	[Propagules likely to be dispersed unintentionally (plants growing in heavily trafficked areas)? No] No evidence of unintentional dispersal.
702	1993. Eshbaugh, W.H.. Peppers: history and exploitation of a serendipitous new crop discovery In: J.Janick and J.E. Simon (eds.) New crops. Wiley, New York http://www.hort.purdue.edu/newcrop/proceedings1993/V2-132.html	[Propagules dispersed intentionally by people? Yes] Widely cultivated.
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 cultivated.
702	2009. Kraft, K.H.. The domestication of the chile pepper, <i>Capsicum annuum</i> : genetic, ecological, and anthropogenic patterns of genetic diversity.	[Propagules dispersed intentionally by people? Yes] Widely cultivated.
703	2012. WRA Specialist. Personal Communication.	[Propagules likely to disperse as a produce contaminant? No] No evidence.
704	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 adapted to wind dispersal? No] Fleshy berry, hollow inside; seeds flattened.
705	2012. WRA Specialist. Personal Communication.	[Propagules water dispersed? Unknown]
706	1996. Bosland, P.W.. Capsicums: Inovative uses of an ancient crop. In: J. Janick (ed.) Progress in new crops. ASHS Press, Arlington http://www.hort.purdue.edu/newcrop/proceedings1996/V3-479.html	[Propagules bird dispersed? Yes] "It is interesting to note that all wild chiles have small fruits which are eaten with ease by birds, the natural dispersal agent for <i>Capsicum</i> ."
706	2008. Royal Botanic Gardens Kew. Seed Information Database (SID). Version 7.1. http://data.kew.org/sid/	[Propagules bird dispersed? Yes] Pungent types, including chillies, are used as a condiment or spice for seasoning. The dried fruits are ground to a powder (paprika) and used as an ingredient in curry powder. The pungency is mainly due to the presence of chemical compounds called capsaicinoids, which deter most mammals from eating the fruit. Birds, however, will eat them without harm (and indeed help to disperse the seeds).
707	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 by other animals (externally)? No] Hollow berries. [no means of attachment]
707	2008. Royal Botanic Gardens Kew. Seed Information Database (SID). Version 7.1. http://data.kew.org/sid/	[Propagules dispersed by other animals (externally)? No] Pungent types, including chillies, are used as a condiment or spice for seasoning. The dried fruits are ground to a powder (paprika) and used as an ingredient in curry powder. The pungency is mainly due to the presence of chemical compounds called capsaicinoids, which deter most mammals from eating the fruit. Birds, however, will eat them without harm (and indeed help to disperse the seeds).

708	1996. Bosland, P.W.. Capsicums: Inovative uses of an ancient crop. In: J. Janick (ed.) Progress in new crops. ASHS Press, Arlington http://www.hort.purdue.edu/newcrop/proceedings1996/V3-479.html	[Propagules survive passage through the gut? Yes] It is interesting to note that all wild chiles have small fruits which are eaten with ease by birds, the natural dispersal agent for Capsicum.
801	2012. WRA Specialist. Personal Communication.	[Prolific seed production (>1000/m2)? No] Based on images of fruit from google images.
802	2008. Royal Botanic Gardens Kew. Seed Information Database (SID). Version 7.1. http://data.kew.org/sid/	[Evidence that a persistent propagule bank is formed (>1 yr)] Seeds are orthodox and relatively short-lived in storage.
802	2012. WRA Specialist. Personal Communication.	[Evidence that a persistent propagule bank is formed (>1 yr)? Unknown]
803	2012. WRA Specialist. Personal Communication.	[Well controlled by herbicides? Unknown] Is not being controlled as an invasive weed.
804	2008. Burt, J.. Farm note: Growing Capsicums and Chilles. Department of Food and Agriculture - Government of Western Australia,	[Tolerates, or benefits from, mutilation, cultivation, or fire? No] "After the first season's growth, some growers prune back capsicums to major branches and allow them to re-grow. This is not good practice, as yields are lower in the second year and frequent spraying is needed for pest and disease control."
805	2012. WRA Specialist. Personal Communication.	[Effective natural enemies present locally (e.g. introduced biocontrol agents)? Unknown]

Summary of Risk Traits

High Risk / Undesirable Traits

- Possibly naturalized
- Weedy races in native area
- From tropical region
- Possibly another species in genus is invasive
- Unpalatable to grazing animals
- Possibly mildly toxic to skin of some people
- Hybridizes naturally
- Self-compatible species
- Reproduces within a year
- Bird dispersed (long distance dispersal)

Low Risk / Desirable Traits

- Domesticated for thousands of years
- Widely cultivated without naturalizing
- Not a known invasive
- Not tolerant of colder climates
- Non-toxic to animals (animals usually don't eat the species)
- Doesn't tolerate shade
- Prefers a limited range of soils (seeds won't germinate just anywhere)
- Limited dispersal mechanisms
- Doesn't appear to have a persistent seed bank