

**Family:** *Rosaceae*

**Taxon:** *Rubus 'Triple Crown'*

**Synonym:** NA

**Common Name:** 'Triple Crown'

<b>Questionnaire :</b>	current 20090513	<b>Assessor:</b>	Chuck Chimera	<b>Designation:</b> EVALUATE
<b>Status:</b>	Assessor Approved	<b>Data Entry Person:</b>	Chuck Chimera	<b>WRA Score</b> 3
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)	Low
202	Quality of climate match data		(0-low; 1-intermediate; 2-high) (See Appendix 2)	Intermediate
203	Broad climate suitability (environmental versatility)		y=1, n=0	y
204	Native or naturalized in regions with tropical or subtropical climates		y=1, n=0	n
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	n
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	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	
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	y
607	Minimum generative time (years)	1 year = 1, 2 or 3 years = 0, 4+ years = -1	2
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	
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	
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: EVALUATE

WRA Score 3

## Supporting Data:

101	2011. Badenes, M.L./Byrne, D.H. (eds.). Fruit Breeding. Springer, New York, NY	[Is the species highly domesticated? No] "The USDA-ARS Beltsville program is responsible for incorporating thornlessness from 'Merton Thornless' into the first outstanding thornless cultivars released in the late 1960s and early 1970s..." ... "The last release from these programs was 'Triple Crown' in the 1990s (Galletta et al. 1998b). This group of breeding material and cultivars is called 'semierect' and the plants are characterized as being thornless, with very vigorous, erect canes that grow 4-6 m long from a crown and arch to the ground. Their fruit is similar in quality to the erect blackberries and they are very productive." [Although thornlessness may reduce competitive ability, there is insufficient evidence to suggest that this cultivar would not be able to persist without human intervention]
102	2012. WRA Specialist. Personal Communication.	NA
103	2012. WRA Specialist. Personal Communication.	NA
201	1999. Izadyar, A.B./Wang, S.Y.. Changes of lipid components during dormancy in 'Hull Thornless' and 'Triple Crown Thornless' blackberry cultivars. Scientia Horticulturae. 82: 243-254.	[Species suited to tropical or subtropical climate(s) - ? 0-Low] "Chilling requirements and changes in polar lipids of two blackberry cultivars (Rubus spp.), 'Triple Crown Thornless' and 'Hull Thornless' were determined during dormancy and budbreak. Under field conditions, 'Triple Crown Thornless' required lower chilling units (CUs) than 'Hull Thornless' to overcome dormancy. 'Triple Crown Thornless' and 'Hull Thornless' achieved full budbreak after receiving 600 and 1000 CU (chilling units), respectively. Under cold temperature treatments, 'Triple Crown Thornless' needed 400 CU, while 'Hull Thornless' needed 600 CU at 48C to obtain 100% budbreak." ... "'Triple Crown Thornless' and 'Hull Thornless' blackberries, both appear to have short endodormancy. 'Triple Crown Thornless' requires lower CUs than 'Hull Thornless' to overcome the dormancy. 'Triple Crown Thornless' has a shorter chilling period; thus, it should be possible to grow it successfully in areas south of North Carolina or northern Georgia."
201	2012. Missouri Botanical Garden. Gardens & Gardening > Your Garden > Plant Finder > Plant Details - Rubus 'Triple Crown'. <a href="http://www.missouribotanicalgarden.org/gardens-gardening/your-garden/plant-finder/plant-details/kc/a707/rubus-triple-crown.aspx">http://www.missouribotanicalgarden.org/gardens-gardening/your-garden/plant-finder/plant-details/kc/a707/rubus-triple-crown.aspx</a>	[Species suited to tropical or subtropical climate(s) - ? 0-Low] "Zone: 5 to 8"
202	2012. Missouri Botanical Garden. Gardens & Gardening > Your Garden > Plant Finder > Plant Details - Rubus 'Triple Crown'. <a href="http://www.missouribotanicalgarden.org/gardens-gardening/your-garden/plant-finder/plant-details/kc/a707/rubus-triple-crown.aspx">http://www.missouribotanicalgarden.org/gardens-gardening/your-garden/plant-finder/plant-details/kc/a707/rubus-triple-crown.aspx</a>	[Quality of climate match data? 1-intermediate] "Zone: 5 to 8"
203	2012. Dave's Gardern. PlantFiles: Blackberry - Rubus 'Triple Crown'. <a href="http://davesgarden.com/guides/pf/go/141453/">http://davesgarden.com/guides/pf/go/141453/</a>	[Broad climate suitability (environmental versatility)? Yes] "Hardiness: USDA Zone 3a: to -39.9 °C (-40 °F) USDA Zone 3b: to -37.2 °C (-35 °F) USDA Zone 4a: to -34.4 °C (-30 °F) USDA Zone 4b: to -31.6 °C (-25 °F) USDA Zone 5a: to -28.8 °C (-20 °F) USDA Zone 5b: to -26.1 °C (-15 °F) USDA Zone 6a: to -23.3 °C (-10 °F) USDA Zone 6b: to -20.5 °C (-5 °F) USDA Zone 7a: to -17.7 °C (0 °F) USDA Zone 7b: to -14.9 °C (5 °F) USDA Zone 8a: to -12.2 °C (10 °F) USDA Zone 8b: to -9.4 °C (15 °F)" [Grows in 5 hardiness zones]
204	2012. Dave's Gardern. PlantFiles: Blackberry - Rubus 'Triple Crown'. <a href="http://davesgarden.com/guides/pf/go/141453/">http://davesgarden.com/guides/pf/go/141453/</a>	[Native or naturalized in regions with tropical or subtropical climates? No] "Hardiness: USDA Zone 3a: to -39.9 °C (-40 °F) USDA Zone 3b: to -37.2 °C (-35 °F) USDA Zone 4a: to -34.4 °C (-30 °F) USDA Zone 4b: to -31.6 °C (-25 °F) USDA Zone 5a: to -28.8 °C (-20 °F) USDA Zone 5b: to -26.1 °C (-15 °F) USDA Zone 6a: to -23.3 °C (-10 °F) USDA Zone 6b: to -20.5 °C (-5 °F) USDA Zone 7a: to -17.7 °C (0 °F) USDA Zone 7b: to -14.9 °C (5 °F) USDA Zone 8a: to -12.2 °C (10 °F) USDA Zone 8b: to -9.4 °C (15 °F)"
204	2012. Missouri Botanical Garden. Gardens & Gardening > Your Garden > Plant Finder > Plant Details - Rubus 'Triple Crown'. <a href="http://www.missouribotanicalgarden.org/gardens-gardening/your-garden/plant-finder/plant-details/kc/a707/rubus-triple-crown.aspx">http://www.missouribotanicalgarden.org/gardens-gardening/your-garden/plant-finder/plant-details/kc/a707/rubus-triple-crown.aspx</a>	[Native or naturalized in regions with tropical or subtropical climates? No] "Zone: 5 to 8"

205	2004. Oliveira, P.B./Lopes-da-Fonseca, L./Jennings, D.L.. Summer Pruning Effect on Reproductive Yield Components of 'Triple Crown' Blackberry. <i>Acta Horticulturae</i> (ISHS). 649: 277-282.	[Does the species have a history of repeated introductions outside its natural range? Yes] "Off-season fruit production in southern Europe is profitable when low input production techniques are available. Late blackberry production in southern Britain is often achieved by spring pruning the laterals and summer pruning of the primocanes is commonly used to induce late production from primocane-fruiting raspberries in Portugal. In order to delay the production of 'Triple Crown' blackberry grown under plastic, experiments were done to determine the influence of the date of lateral pruning and its intensity."
205	2012. Dave's Gardern. PlantFiles: Blackberry - Rubus 'Triple Crown'. <a href="http://davesgarden.com/guides/pf/go/141453/">http://davesgarden.com/guides/pf/go/141453/</a>	[Does the species have a history of repeated introductions outside its natural range? Yes] "This plant has been said to grow in the following regions: Macminville, Oregon Midlothian, Virginia Grand Mound, Washington"
301	2007. Randall, R.P.. Global Compendium of Weeds - Index [Online Database]. <a href="http://www.hear.org/gcw/">http://www.hear.org/gcw/</a>	[Naturalized beyond native range? No] No evidence
302	2007. Randall, R.P.. Global Compendium of Weeds - Index [Online Database]. <a href="http://www.hear.org/gcw/">http://www.hear.org/gcw/</a>	[Garden/amenity/disturbance weed? No] No evidence
303	2007. Randall, R.P.. Global Compendium of Weeds - Index [Online Database]. <a href="http://www.hear.org/gcw/">http://www.hear.org/gcw/</a>	[Agricultural/forestry/horticultural weed? No] No evidence
304	2007. Randall, R.P.. Global Compendium of Weeds - Index [Online Database]. <a href="http://www.hear.org/gcw/">http://www.hear.org/gcw/</a>	[Environmental weed? No] No evidence
305	2003. Weber, E.. Invasive Plant Species of the World. A Reference Guide to Environmental Weeds. CABI Publishing, Wallingford, UK	[Congeneric weed? Yes] "Rubus argutus ... forms impenetrable thickets ... Rubus cuneifolius ... plant coppices vigorously and forms dense thickets ... Rubus ellipticus ... shrub forms impenetrable thickets that displace native vegetation and affect wildlife by impeding movement and reducing habitats ... Rubus fruticosus...forms extensive and dense impenetrable thickets, shading out all other vegetation, displacing it and affecting wildlife habitats ... Rubus niveus ... displaces native vegetation, impedes regeneration of native shrubs and trees and affect wildlife habitats ... Rubus ulmifolius ... grows in dense patches that displace native vegetation ..."
401	2012. Missouri Botanical Garden. Gardens & Gardening > Your Garden > Plant Finder > Plant Details - Rubus 'Triple Crown'. <a href="http://www.missouribotanicalgarden.org/gardens-gardening/your-garden/plant-finder/plant-details/kc/a707/rubus-triple-crown.aspx">http://www.missouribotanicalgarden.org/gardens-gardening/your-garden/plant-finder/plant-details/kc/a707/rubus-triple-crown.aspx</a>	[Produces spines, thorns or burrs? No] "'Triple Crown' is a semi-erect, thornless blackberry cultivar."
401	2012. USDA, ARS, National Genetic Resources Program. Rubus hybrid ROSACEAE. 'Triple Crown' - Germplasm Resources Information Network - (GRIN). [Online Database]. <a href="http://www.ars-grin.gov/cgi-bin/npgs/acc/display.pl?1544666">http://www.ars-grin.gov/cgi-bin/npgs/acc/display.pl?1544666</a>	[Produces spines, thorns or burrs? No] "Plant: relatively high yield, vigorous, forms grown, spineless canes, fruit well distributed."
402	1988. Coté, J.-F./Thibault, J.-R.. Allelopathic Potential of Raspberry Foliar Leachates on Growth of Ectomycorrhizal Fungi Associated with Black Spruce. <i>American Journal of Botany</i> 75(7): 966-970. 75(7): 966-970.	[Allelopathic? Unknown] "In vitro bioassays on seven species of ectomycorrhizal fungi associated with black spruce ( <i>Picea mariana</i> (Mill.) BSP) were tested under allelopathic action of raspberry ( <i>Rubus idaeus</i> L.). Radial growth inhibitions were observed when fungi were confronted with increasing concentrations ( 0%/0.1% 0.5%/0.2.5%) of foliar leachates made from May, July, and September material ( 1986). For the 2.5% treatments, species <i>Paxillus involutus</i> , <i>Laccaria proxima</i> , <i>Laccaria bicolor</i> , <i>Thelephora terrestris</i> and <i>Cortinarius pseudonapus</i> grew only 6, 8, 32, 42, and 46% of their control, whereas <i>Hebeloma cylindrosporum</i> and <i>Cenococcum geophilum</i> were stimulated. Tree seedlings from raspberry invaded plantation showed mycorrhizal infection rate over 75%, with fine roots mainly colonized by <i>C. geophilum</i> . In combination with efforts of tree improvement and based on the results of this study, it seems important to select a well-adapted mycorrhizae, when interference by raspberry is involved." [Some <i>Rubus</i> species can exhibit allelopathic properties, but no evidence exists to suggest that <i>Rubus</i> 'Triple Crown' is allelopathic]
403	2012. USDA, ARS, National Genetic Resources Program. Rubus hybrid ROSACEAE. 'Triple Crown' - Germplasm Resources Information Network - (GRIN). [Online Database]. <a href="http://www.ars-grin.gov/cgi-bin/npgs/acc/display.pl?1544666">http://www.ars-grin.gov/cgi-bin/npgs/acc/display.pl?1544666</a>	[Parasitic? No] Rubus [Genus is not parasitic]

404	2012. HerbiGuide. Loganberry - Rubus loganobaccus L. Bailey. <a href="http://www.herbiguide.com.au/Descriptions/hg_Loganberry.htm">http://www.herbiguide.com.au/Descriptions/hg_Loganberry.htm</a>	[Unpalatable to grazing animals? No] "Goats provide a method of non-chemical control. Infested areas are grazed with 7.5 goats per ha in the first year, then 1.25 goats per ha in subsequent years." [The spiny Rubus 'Boysen' may be controlled by goats, so presumably the spineless Rubus 'Triple Crown' is also palatable]
405	2012. Dave's Gardern. PlantFiles: Blackberry - Rubus 'Triple Crown'. <a href="http://davesgarden.com/guides/pf/go/141453/">http://davesgarden.com/guides/pf/go/141453/</a>	[Toxic to animals? No] "Danger: N/A" [No evidence]
406	2012. Dave's Gardern. PlantFiles: Blackberry - Rubus 'Triple Crown'. <a href="http://davesgarden.com/guides/pf/go/141453/">http://davesgarden.com/guides/pf/go/141453/</a>	[Host for recognized pests and pathogens? Possibly] "I am going to have to completely remove a stand of Triple Crown, probably 50+ plants, planted a few years ago due to the leaf curl virus. research has it to control this virus you must spray insecticide to control the aphid that carries this virus and remove those plants infected. I have tried many organic approaches to control this situation including introducing Praying Mantis and 9,000 lady bugs to no avail. I absolutely refuse to spray my berries with any insecticide." [Grower comment from Pennsylvania]
406	2012. Missouri Botanical Garden. Gardens & Gardening > Your Garden > Plant Finder > Plant Details - Rubus 'Triple Crown'. <a href="http://www.missouribotanicalgarden.org/gardens-gardening/your-garden/plant-finder/plant-details/kc/a707/rubus-triple-crown.aspx">http://www.missouribotanicalgarden.org/gardens-gardening/your-garden/plant-finder/plant-details/kc/a707/rubus-triple-crown.aspx</a>	[Host for recognized pests and pathogens? Possibly] "Anthracnose, botrytis and verticillium wilt can be serious disease problems. Cane borers and crown borers are potentially serious insect pests."
407	2012. Dave's Gardern. PlantFiles: Blackberry - Rubus 'Triple Crown'. <a href="http://davesgarden.com/guides/pf/go/141453/">http://davesgarden.com/guides/pf/go/141453/</a>	[Causes allergies or is otherwise toxic to humans? No] "Danger: N/A" [No evidence]
408	2009. NSW Department of Primary Industries Weed Management Unit. Blackberry control manual: Management and control options for blackberry (Rubus spp.) in Australia. Department of Primary Industries, Victoria	[Creates a fire hazard in natural ecosystems? Probably No] "Fire hazard. Dead blackberry material is a fire hazard. Blackberry infestations can also obstruct fire trails and access to water for controlling fires." [If able to form thickets, this cultivar could potentially increase fire hazards in drier areas, but no direct evidence at this time.]
409	2012. Dave's Gardern. PlantFiles: Blackberry - Rubus 'Triple Crown'. <a href="http://davesgarden.com/guides/pf/go/141453/">http://davesgarden.com/guides/pf/go/141453/</a>	[Is a shade tolerant plant at some stage of its life cycle? Possibly No] "Sun Exposure: Full Sun"
409	2012. Learn 2 Grow. Rubus 'Triple Crown'. <a href="http://www.learn2grow.com/plants/rubus-triple-crown/">http://www.learn2grow.com/plants/rubus-triple-crown/</a>	[Is a shade tolerant plant at some stage of its life cycle? Possibly] "'Triple Crown' requires sun and well drained, humus-rich soil, but may benefit from some shade in hot-summer climates."
409	2012. Missouri Botanical Garden. Gardens & Gardening > Your Garden > Plant Finder > Plant Details - Rubus 'Triple Crown'. <a href="http://www.missouribotanicalgarden.org/gardens-gardening/your-garden/plant-finder/plant-details/kc/a707/rubus-triple-crown.aspx">http://www.missouribotanicalgarden.org/gardens-gardening/your-garden/plant-finder/plant-details/kc/a707/rubus-triple-crown.aspx</a>	[Is a shade tolerant plant at some stage of its life cycle? Possibly] "Sun: Full sun to part shade"
410	2012. Dave's Gardern. PlantFiles: Blackberry - Rubus 'Triple Crown'. <a href="http://davesgarden.com/guides/pf/go/141453/">http://davesgarden.com/guides/pf/go/141453/</a>	[Tolerates a wide range of soil conditions? No] "Soil pH requirements: 6.1 to 6.5 (mildly acidic) 6.6 to 7.5 (neutral) 7.6 to 7.8 (mildly alkaline)"
410	2012. Missouri Botanical Garden. Gardens & Gardening > Your Garden > Plant Finder > Plant Details - Rubus 'Triple Crown'. <a href="http://www.missouribotanicalgarden.org/gardens-gardening/your-garden/plant-finder/plant-details/kc/a707/rubus-triple-crown.aspx">http://www.missouribotanicalgarden.org/gardens-gardening/your-garden/plant-finder/plant-details/kc/a707/rubus-triple-crown.aspx</a>	[Tolerates a wide range of soil conditions? No] "Best grown in moist, organically rich, slightly acidic, well-drained soil in full sun to part shade. Intolerant of wet soils. Raised beds should be considered in areas with heavy clay soils. "
411	2012. Missouri Botanical Garden. Gardens & Gardening > Your Garden > Plant Finder > Plant Details - Rubus 'Triple Crown'. <a href="http://www.missouribotanicalgarden.org/gardens-gardening/your-garden/plant-finder/plant-details/kc/a707/rubus-triple-crown.aspx">http://www.missouribotanicalgarden.org/gardens-gardening/your-garden/plant-finder/plant-details/kc/a707/rubus-triple-crown.aspx</a>	[Climbing or smothering growth habit? No] "'Triple Crown' is a semi-erect, thornless blackberry cultivar."
412	2012. WRA Specialist. Personal Communication.	[Forms dense thickets? Unknown] No evidence, but other Rubus are known to form thickets
501	2012. USDA, ARS, National Genetic Resources Program. Rubus hybrid ROSACEAE. 'Triple Crown' - Germplasm Resources Information Network - (GRIN). [Online Database]. <a href="http://www.ars-grin.gov/cgi-bin/npgs/acc/display.pl?1544666">http://www.ars-grin.gov/cgi-bin/npgs/acc/display.pl?1544666</a>	[Aquatic? No] Terrestrial

502	2012. USDA, ARS, National Genetic Resources Program. Rubus hybrid ROSACEAE. 'Triple Crown' - Germplasm Resources Information Network - (GRIN). [Online Database]. <a href="http://www.ars-grin.gov/cgi-bin/npgs/acc/display.pl?1544666">http://www.ars-grin.gov/cgi-bin/npgs/acc/display.pl?1544666</a>	[Grass? No] Rosaceae
503	2012. USDA, ARS, National Genetic Resources Program. Rubus hybrid ROSACEAE. 'Triple Crown' - Germplasm Resources Information Network - (GRIN). [Online Database]. <a href="http://www.ars-grin.gov/cgi-bin/npgs/acc/display.pl?1544666">http://www.ars-grin.gov/cgi-bin/npgs/acc/display.pl?1544666</a>	[Nitrogen fixing woody plant? No] Rubus [Although some Rosaceae are nitrogen fixing, there is no evidence that members of the genus Rubus are nitrogen fixers]
504	2012. Missouri Botanical Garden. Gardens & Gardening > Your Garden > Plant Finder > Plant Details - Rubus 'Triple Crown'. <a href="http://www.missouribotanicalgarden.org/gardens-gardening/your-garden/plant-finder/plant-details/kc/a707/rubus-triple-crown.aspx">http://www.missouribotanicalgarden.org/gardens-gardening/your-garden/plant-finder/plant-details/kc/a707/rubus-triple-crown.aspx</a>	[Geophyte (herbaceous with underground storage organs -- bulbs, corms, or tubers)? No] "a semi-erect, thornless blackberry cultivar"
601	2012. USDA, ARS, National Genetic Resources Program. Rubus hybrid ROSACEAE. 'Triple Crown' - Germplasm Resources Information Network - (GRIN). [Online Database]. <a href="http://www.ars-grin.gov/cgi-bin/npgs/acc/display.pl?1544666">http://www.ars-grin.gov/cgi-bin/npgs/acc/display.pl?1544666</a>	[Evidence of substantial reproductive failure in native habitat? No]
602	2012. Dave's Gardern. PlantFiles: Blackberry - Rubus 'Triple Crown'. <a href="http://davesgarden.com/guides/pf/go/141453/">http://davesgarden.com/guides/pf/go/141453/</a>	[Produces viable seed? Yes] "Propagation Methods: From herbaceous stem cuttings From woody stem cuttings From softwood cuttings From semi-hardwood cuttings From hardwood cuttings From seed; direct sow outdoors in fall From seed; winter sow in vented containers, coldframe or unheated greenhouse From seed; stratify if sowing indoors From seed; sow indoors before last frost By simple layering By tip layering By serpentine layering By stooling or mound layering" ... "Remove fleshy coating on seeds before storing Allow unblemished fruit to ripen; clean and dry seeds Unblemished fruit must be significantly overripe before harvesting seed; clean and dry seeds Ferment seeds before storing Properly cleaned, seed can be successfully stored"
603	2004. Randell, R.A./Howarth, D.G./Morden, C.W.. Genetic analysis of natural hybrids between endemic and alien Rubus (Rosaceae) species in Hawai'i. Conservation Genetics. 5: 217-230: 217-230.	[Hybridizes naturally? Unknown] "Abstract A population of putative hybrids between the endemic Rubus hawaiiensis and naturalized R. rosifolius was discovered in Kīpahulu Valley, on the island of Maui in the Hawaiian archipelago. The goal of this study was to molecularly characterize this natural hybridization event, investigate the mode of hybridization, and determine the male fertility of the hybrid individuals. Both morphological and RAPD marker data indicate that the putative hybrid individuals are the progeny of R. rosifolius and R. hawaiiensis. All 39 hybrid individuals sampled had the chloroplast DNA haplotype of R. rosifolius. Thus hybridization appears to be asymmetric, with R. rosifolius acting as the maternal parent. All hybrid individuals assessed for pollen stainability were sterile, and there was no evidence of backcrossing to either parent. This result suggests that hybrids are of the first filial generation and that variation among hybrids reflects differences within the parental populations. Sympatric populations of R. hawaiiensis and R. rosifolius occur on four islands and six additional alien species of Rubus are naturalized and sympatric with R. hawaiiensis in Hawai'i. Further investigation is merited to assess whether hybridization may pose a threat to the long term viability of R. hawaiiensis. This study highlights the increasing frequency and negative consequences of native-alien hybridization and the importance of maintaining active alien species control programs in the Hawaiian Islands." [natural hybridization has been documented in the genus Rubus, but there is no evidence that this has occurred with Rubus 'Triple Crown']
603	2006. iVillage Garden Web. Fruit & Orchards Forum - Triple Crown Blackberry Seedlings. <a href="http://forums2.gardenweb.com/forums/load/fruit/msg031627445457.html">http://forums2.gardenweb.com/forums/load/fruit/msg031627445457.html</a>	[Hybridizes naturally? Possibly. GardenWeb discussion of possible 'Triple Crown' seedlings or hybrids] "So I've got a bunch of little seedlings growing at the base of my Triple Crown plant. Would these seedlings grow true if I let them? Posted by jerolrdburrow SoCal 10a (My Page) on Thu, Mar 25, 10 at 16:27" ... "if the flower of the berry that produced your seedling plant received pollen from a different caneberry variety, you may get something entirely different. There is only a tiny chance the fruit will be an improvement of what you already have. Posted by larry_gene z8/Sunset6 OR (My Page) on Fri, Mar 26, 10 at 1:05" ... "I'm growing Caroline raspberries next to my 3 Crown plant.. is there a chance they would cross? Posted by jerolrdburrow SoCal 10a (My Page) on Fri, Mar 26, 10 at 12:01" ... "Yes, there are many blackberry-raspberry crosses, such as the well-known Boysenberry and loganberry. Perhaps you will come up with the Burrowberry! Posted by larry_gene z8/Sunset6 OR (My Page) on Sat, Mar 27, 10 at 1:20"



604	2011. Pleasant Hill Nursery. Plant Of The Week 2-22-11: Rubus 'Triple Crown'. <a href="http://www.pleasanthillnursery.com/plant-of-the-week/2-22-11-rubus-triple-crown.html">http://www.pleasanthillnursery.com/plant-of-the-week/2-22-11-rubus-triple-crown.html</a>	[Self-compatible or apomictic? Yes] "'Triple Crown' is a self fertile, thornless blackberry growing strong canes up to 15' long (requiring trellising)."
604	2012. Missouri Botanical Garden. Gardens & Gardening > Your Garden > Plant Finder > Plant Details - Rubus 'Triple Crown'. <a href="http://www.missouribotanicalgarden.org/gardens-gardening/your-garden/plant-finder/plant-details/kc/a707/rubus-triple-crown.aspx">http://www.missouribotanicalgarden.org/gardens-gardening/your-garden/plant-finder/plant-details/kc/a707/rubus-triple-crown.aspx</a>	[Self-compatible or apomictic? Yes] "This is a self-fruitful, free-standing, thornless shrub that produces one crop of fruit per year."
604	2012. Park Seed. Blackberry Triple Crown. <a href="http://parkseed.com/blackberry-triple-crown/p/48059-PK-3/">http://parkseed.com/blackberry-triple-crown/p/48059-PK-3/</a>	[Self-compatible or apomictic? Yes] "And because this blackberry is self-fertile, you need plant only one, but you will find your crops even heavier if several are planted together."
604	2012. Virginia Berry Farm. Blackberries ~ Self-Fertile ~ Zones 4-8. <a href="http://www.virginiaberryfarm.com/pages/view/8/">http://www.virginiaberryfarm.com/pages/view/8/</a>	[Self-compatible or apomictic? Yes] "Triple Crown is an early-season variety with outstanding fruit production of up to 30 pounds per plant. This coupled with its outstanding vigor and cold hardiness make it extremely popular with home growers. The fruit is large and glossy with an excellent flavor. This self-fertile plant is a trailing variety, so it should be trellised."
605	2011. Pleasant Hill Nursery. Plant Of The Week 2-22-11: Rubus 'Triple Crown'. <a href="http://www.pleasanthillnursery.com/plant-of-the-week/2-22-11-rubus-triple-crown.html">http://www.pleasanthillnursery.com/plant-of-the-week/2-22-11-rubus-triple-crown.html</a>	[Requires specialist pollinators? No] "White five petaled flowers attract bees in spring that pollinate the plants to produce a great fruit crop. "
605	2012. Dave's Gardern. PlantFiles: Blackberry - Rubus 'Triple Crown'. <a href="http://davesgarden.com/guides/pf/go/141453/">http://davesgarden.com/guides/pf/go/141453/</a>	[Requires specialist pollinators? No] "This plant is attractive to bees, butterflies and/or birds"
606	2012. Dave's Gardern. PlantFiles: Blackberry - Rubus 'Triple Crown'. <a href="http://davesgarden.com/guides/pf/go/141453/">http://davesgarden.com/guides/pf/go/141453/</a>	[Reproduction by vegetative fragmentation? Yes. Assumed to be able to spread vegetatively like other Rubus species] "Propagation Methods: From herbaceous stem cuttings From woody stem cuttings From softwood cuttings From semi-hardwood cuttings From hardwood cuttings From seed; direct sow outdoors in fall From seed; winter sow in vented containers, coldframe or unheated greenhouse From seed; stratify if sowing indoors From seed; sow indoors before last frost By simple layering By tip layering By serpentine layering By stooling or mound layering"
607	2012. Learn 2 Grow. Rubus 'Triple Crown'. <a href="http://www.learn2grow.com/plants/rubus-triple-crown/">http://www.learn2grow.com/plants/rubus-triple-crown/</a>	[Minimum generative time (years)? 2] "Growth Rate - Fast"
607	2012. Missouri Botanical Garden. Gardens & Gardening > Your Garden > Plant Finder > Plant Details - Rubus 'Triple Crown'. <a href="http://www.missouribotanicalgarden.org/gardens-gardening/your-garden/plant-finder/plant-details/kc/a707/rubus-triple-crown.aspx">http://www.missouribotanicalgarden.org/gardens-gardening/your-garden/plant-finder/plant-details/kc/a707/rubus-triple-crown.aspx</a>	[Minimum generative time (years)? 2] "Plants are perennial but canes are biennial." [Plants often propagated from cuttings, and will fruit within 2 years]
701	2003. Starr, F./Starr, K./Loope, L.L.. Rubus ellipticus - Yellow Himalayan raspberry - Rosaceae. USGS - Biological Resources Haleakala Field Station Maui, <a href="http://www.hear.org/starr/hiplants/reports/pdf/rubus_ellipticus.pdf">http://www.hear.org/starr/hiplants/reports/pdf/rubus_ellipticus.pdf</a>	[Propagules likely to be dispersed unintentionally? Unknown] "On Maui, R. ellipticus is not yet established in the wild. However, plants have been observed on hapu'u (Cibotium spp.) tree ferns and parts that are shipped from infested areas of Hawai'i. ... These ferns appear "clean" during transport, then seeds sprout some time later in their new locations. There are likely more locations on Maui where Rubus ellipticus will be found in the future. Rubus ellipticus is a noxious weed and strategies for preventing inter-island transport are needed." [Unknown for Rubus 'Triple Crown', but potential exists for inadvertent transport of seeds as has been documented with Rubus ellipticus]
702	2012. Missouri Botanical Garden. Gardens & Gardening > Your Garden > Plant Finder > Plant Details - Rubus 'Triple Crown'. <a href="http://www.missouribotanicalgarden.org/gardens-gardening/your-garden/plant-finder/plant-details/kc/a707/rubus-triple-crown.aspx">http://www.missouribotanicalgarden.org/gardens-gardening/your-garden/plant-finder/plant-details/kc/a707/rubus-triple-crown.aspx</a>	[Propagules dispersed intentionally by people? Yes] "Although the flowers are attractive, this blackberry is grown primarily as a food crop and it not considered appropriate for ornamental use."

703	2003. Starr, F./Starr, K./Loope, L.L.. Rubus ellipticus - Yellow Himalayan raspberry - Rosaceae. USGS - Biological Resources Haleakala Field Station Maui, <a href="http://www.hear.org/starr/hiplants/reports/pdf/rubus_ellipticus.pdf">http://www.hear.org/starr/hiplants/reports/pdf/rubus_ellipticus.pdf</a>	[Propagules likely to disperse as a produce contaminant? Unknown] "On Maui, R. ellipticus is not yet established in the wild. However, plants have been observed on hapu'u (Cibotium spp.) tree ferns and parts that are shipped from infested areas of Hawai'i. ... These ferns appear "clean" during transport, then seeds sprout some time later in their new locations. There are likely more locations on Maui where Rubus ellipticus will be found in the future. Rubus ellipticus is a noxious weed and strategies for preventing inter-island transport are needed." [Unknown for Rubus 'Triple Crown', but potential exists for inadvertent seed contamination of tree fern trunks, or other produce, as has been documented with Rubus ellipticus]
704	2012. Missouri Botanical Garden. Gardens & Gardening > Your Garden > Plant Finder > Plant Details - Rubus 'Triple Crown'. <a href="http://www.missouribotanicalgarden.org/gardens-gardening/your-garden/plant-finder/plant-details/kc/a707/rubus-triple-crown.aspx">http://www.missouribotanicalgarden.org/gardens-gardening/your-garden/plant-finder/plant-details/kc/a707/rubus-triple-crown.aspx</a>	[Propagules adapted to wind dispersal? No] Fleshy-fruited
705	2012. WRA Specialist. Personal Communication.	[Propagules water dispersed? No] No evidence [Rubus fruits are adapted for bird and vertebrate dissemination]
706	2012. Dave's Gardern. PlantFiles: Blackberry - Rubus 'Triple Crown'. <a href="http://davesgarden.com/guides/pf/go/141453/">http://davesgarden.com/guides/pf/go/141453/</a>	[Propagules bird dispersed? Yes] "This plant is attractive to bees, butterflies and/or birds" [Fleshy-fruited. Assumed to be bird dispersed]
707	2012. WRA Specialist. Personal Communication.	[Propagules dispersed by other animals (externally)? No] No evidence [Unlikely. Rubus fruits are adapted for internal bird and vertebrate dissemination & lack means of external attachment]
708	2012. Dave's Gardern. PlantFiles: Blackberry - Rubus 'Triple Crown'. <a href="http://davesgarden.com/guides/pf/go/141453/">http://davesgarden.com/guides/pf/go/141453/</a>	[Propagules survive passage through the gut? Yes] "This plant is attractive to bees, butterflies and/or birds" [Fleshy-fruited. Assumed to be bird dispersed]
801	2000. Fernandez, G./Ballington, J.R.. Growing Blackberries in North Carolina. North Carolina Cooperative Extension Service - North Carolina State University, Raleigh, NC	[Prolific seed production (>1000/m2)? Unknown] "Relatively high yield, vigorous crowns, thornless, and fruit is well distributed on canes."
802	2012. USDA, ARS, National Genetic Resources Program. Rubus hybrid ROSACEAE. 'Triple Crown' - Germplasm Resources Information Network - (GRIN). [Online Database]. <a href="http://www.ars-grin.gov/cgi-bin/npgs/acc/display.pl?1544666">http://www.ars-grin.gov/cgi-bin/npgs/acc/display.pl?1544666</a>	[Evidence that a persistent propagule bank is formed (>1 yr)? NA] Artificial hybrid
803	2003. Weber, E.. Invasive Plant Species of the World. A Reference Guide to Environmental Weeds. CABI Publishing, Wallingford, UK	[Well controlled by herbicides? for Rubus 'Triple Crown'] Chemical control of several invasive Rubus species is described in greater detail, which suggests that herbicide use may be effective at controlling Rubus 'Triple Crown', if necessary.
804	2012. Park Seed. Blackberry Triple Crown. <a href="http://parkseed.com/blackberry-triple-crown/p/48059-PK-3/">http://parkseed.com/blackberry-triple-crown/p/48059-PK-3/</a>	[Tolerates, or benefits from, mutilation, cultivation, or fire? Yes] "The canes are biennial, so cut them back hard after fruiting the second year. They will return even more plentifully in spring! " [Most Rubus, including 'Triple Crown' can be cut back repeatedly to encourage next season's growth]
805	2012. WRA Specialist. Personal Communication.	[Effective natural enemies present locally (e.g. introduced biocontrol agents)? Unlikely] Several naturalized species of Rubus have become highly invasive in the Hawaiian Islands, suggesting that natural enemies of Rubus are not present or ineffective at preventing their spread.