

**Family:** *Ericaceae***Taxon:** *Vaccinium virgatum***Synonym:** *Vaccinium amoenum* Aiton  
*Vaccinium ashei* J. M. Reade**Common Name:** Rabbit-eye blueberry  
Southern black blueberry

Questionnaire :	current 20090513	Assessor:	Chuck Chimera	Designation:	EVALUATE
Status:	Assessor Approved	Data Entry Person:	Chuck Chimera	WRA Score	2
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		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		?
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		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		
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	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	3
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/m <sup>2</sup> )	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 2

Supporting Data:

101	1987. Roecklein, J.C./Leung, P. (eds.). A Profile of economic plants. Transaction Publishers, New Brunswick, NJ	[Is the species highly domesticated? Potentially] "The productivity of rabbit-eye blueberries has been greatly improved by selection and breeding."
101	2006. Ballington, J.R.. Taxonomic status of rabbiteye blueberry and implications for its further improvement. Acta Horticulturae (ISHS). 715: 73-76. <a href="http://www.actahort.org/books/715/715_7.htm">http://www.actahort.org/books/715/715_7.htm</a>	[Is the species highly domesticated? Potentially. Certain cultivars may be highly domesticated] "The specific epithet of the rabbiteye blueberry has recently been changed from <i>Vaccinium ashei</i> Reade to <i>Vaccinium virgatum</i> Aiton, based on prior publication. As presently interpreted, <i>V. virgatum</i> is an extremely variable hexaploid species that occurs from South Carolina to Georgia and northern Florida and westward to east Texas and Arkansas. The hereditary background of <i>V. virgatum</i> is dominated by the genome of <i>V. tenellum</i> Ait., but also involves introgression from <i>V. corymbosum</i> , <i>V. darrowi</i> , and <i>V. elliotii</i> . Plant habit ranges from stoloniferous with stems 0.2m tall to crown-forming with stems 2+m tall, often within the same population. Leaves and fruit respectively range from nonglaucous and black to glaucous and blue. Taxa formerly designated as <i>V. ashei</i> likely are representative of more highly introgressed subpopulations within the overall range of the species. Hybrid progenies involving wild nonglaucous <i>V. virgatum</i> with glaucous-leaved and -fruited cultivated rabbiteye are fully fertile and segregate for the glaucous-leaved and -fruited trait. Transgressive segregation for early ripening is also common in such progenies, along with improved aromatic flavor. Genotypes from the northern end of the range have the potential to improve cold hardiness in future rabbiteye cultivars. Equally as important, this represents a large germplasm reservoir for broadening the germplasm base in a crop where the present base is extremely narrow. "
102	2011. WRA Specialist. Personal Communication.	NA
103	2011. WRA Specialist. Personal Communication.	NA
201	1931. Reade, J.M.. <i>Vaccinium ashei</i> sp. Nov. Torreyia. 31(3): 71-72.	[Species suited to tropical or subtropical climate(s) 2-high] [Species suited to higher elevation areas of Hawaiian Islands] "The proposed species is common in western Florida and the adjacent portions of Georgia, especially near the coast, and extends west to Pearl River County, Mississippi, and as far east as Baker County, Florida. It grows in sandy or mucky soiled swamps, especially swamps of clear-water streams usually associated with water gum of small size, with slash pine, white bay, holly, titi, wax myrtle and azaleas."
202	1931. Reade, J.M.. <i>Vaccinium ashei</i> sp. Nov. Torreyia. 31(3): 71-72.	[Quality of climate match data 2-high] [Species suited to higher elevation areas of Hawaiian Islands] "The proposed species is common in western Florida and the adjacent portions of Georgia, especially near the coast, and extends west to Pearl River County, Mississippi, and as far east as Baker County, Florida. It grows in sandy or mucky soiled swamps, especially swamps of clear-water streams usually associated with water gum of small size, with slash pine, white bay, holly, titi, wax myrtle and azaleas."
203	2004. Dedej, S.. Bee Foraging Behavior and Pollination Activity on Rabbiteye Blueberry <i>Vaccinium ashei</i> Reade. PhD Dissertation. University of Georgia, Athens, GA	[Broad climate suitability (environmental versatility)? Yes] "Rabbiteye blueberries are generally adapted better to regions around 32° latitude both north and south of equator, and they can grow well in higher altitudes."
203	2011. Dave's Gardern. PlantFiles: PlantFiles: Rabbiteye Blueberry <i>Vaccinium ashei</i> 'Climax'. <a href="http://davesgarden.com/guides/pf/go/60953/">http://davesgarden.com/guides/pf/go/60953/</a>	[Broad climate suitability (environmental versatility)? Yes] "Hardiness: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) USDA Zone 9a: to -6.6 °C (20 °F) USDA Zone 9b: to -3.8 °C (25 °F)"
204	1931. Reade, J.M.. <i>Vaccinium ashei</i> sp. Nov. Torreyia. 31(3): 71-72.	[Native or naturalized in regions with tropical or subtropical climates? No] "The proposed species is common in western Florida and the adjacent portions of Georgia, especially near the coast, and extends west to Pearl River County, Mississippi, and as far east as Baker County, Florida. It grows in sandy or mucky soiled swamps, especially swamps of clear-water streams usually associated with water gum of small size, with slash pine, white bay, holly, titi, wax myrtle and azaleas."
205	1988. Webb, C. J./Sykes, W.R./Garnock-Jones, P.J.. Flora of New Zealand, Volume IV: Naturalised pteridophytes, gymnosperms, dicotyledons. Botany Division, DSIR, Christchurch, New Zealand <a href="http://FloraSeries.LandcareResearch.co.nz">http://FloraSeries.LandcareResearch.co.nz</a>	[Does the species have a history of repeated introductions outside its natural range? Possibly] "The evergreen, <i>V. ashei</i> Reade, rabbits eye blueberry is also cultivated and has been reported wild (P. de Lange, pers. Comm.)"

205	2007. USDA. Importation of fresh highbush & rabbit-eye blueberry ( <i>Vaccinium corymbosum</i> L & <i>V. virgatum</i> Aiton) fruit into the Continental United States from Uruguay. USDA Animal & Plant Health Inspection Service, Raleigh, NC	[Does the species have a history of repeated introductions outside its natural range? Possibly] "Recent commercial production of blueberries in Uruguay is limited to highbush ( <i>V. corymbosum</i> L.) and rabbiteye ( <i>V. virgatum</i> Aiton)." [Uncertain how widespread <i>V. virgatum</i> cultivation is outside of native range]
205	2011. DeFrancesco, J./Murray, K.. Pest Management Strategic Plan for Blueberries in Oregon and Washington. Oregon State University, Corvallis, OR <a href="http://www.ipmcenters.org/pmsp/pdf/ORWABlueberry.pdf">http://www.ipmcenters.org/pmsp/pdf/ORWABlueberry.pdf</a>	[Does the species have a history of repeated introductions outside its natural range? Possibly] "Various species of blueberries are grown commercially in the United States. In Oregon and Washington, the most widely planted is the highbush blueberry ( <i>Vaccinium corymbosum</i> L.); however, there are also a few plantings of rabbiteye blueberries ( <i>Vaccinium ashei</i> )."
301	1988. Webb, C. J./Sykes, W.R./Garnock-Jones, P.J.. Flora of New Zealand, Volume IV: Naturalised pteridophytes, gymnosperms, dicotyledons. Botany Division, DSIR, Christchurch, New Zealand <a href="http://FloraSeries.LandcareResearch.co.nz">http://FloraSeries.LandcareResearch.co.nz</a>	[Naturalized beyond native range? No] "The evergreen, <i>V. ashei</i> Reade, rabbits eye blueberry is also cultivated and has been reported wild (P. de Lange, pers. Comm.)" [No other records of naturalization found, and not sufficient evidence to answer "yes" to this question]
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]
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
302	2007. USDA. Importation of fresh highbush & rabbit-eye blueberry ( <i>Vaccinium corymbosum</i> L & <i>V. virgatum</i> Aiton) fruit into the Continental United States from Uruguay. USDA Animal & Plant Health Inspection Service, Raleigh, NC	[Garden/amenity/disturbance weed? No] "The potential of <i>Vaccinium corymbosum</i> and <i>V. virgatum</i> to become weeds after they enter the continental United States was assessed. Overall, this assessment found these species to not be invasive. Because they are native to the United States, a formal weed risk assessment was not required (Table 1) (USDA, 2000)."
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	2007. Randall, R.P.. Global Compendium of Weeds - Index [Online Database]. <a href="http://www.hear.org/gcw/">http://www.hear.org/gcw/</a>	[Congeneric weed? Yes] Multiple <i>Vaccinium</i> species are listed as either naturalized, and/or weeds outside of their introduced range.
401	1931. Reade, J.M.. <i>Vaccinium ashei</i> sp. Nov. <i>Torreyia</i> . 31(3): 71-72.	[Produces spines, thorns or burrs? No] "A slender shrub 2-6 m. high, usually several stems to the clump and the branches often in irregular whorls; bark brown and stringy. Twigs flattened or terete, at first more or less pubescent in lines but at length glabrous or glabrate. Leaves dark green, when mature, glabrous above except for a slight pubescence along the midrib, pale beneath and sometimes quite and persistently pubescent especially on the midrib, 3.4-5.7 cm. long, 2-4.3 cm. wide, broadly ovate, elliptic, or even somewhat obovate in outline, rounded at the base, or narrowed at both ends, or sometimes rounded at the apex, finely and sharply serrulate, especially above the middle, the teeth with gland-tipped, inturned points, often finely ciliate toward the base, petioles short, puberulent, 1-3 mm. long."
402	2011. WRA Specialist. Personal Communication.	[Allelopathic? No] Unlikely, given widespread cultivation with no anecdotal reports of allelopathic properties or traits.
403	1931. Reade, J.M.. <i>Vaccinium ashei</i> sp. Nov. <i>Torreyia</i> . 31(3): 71-72.	[Parasitic? No] [Ericaceae] "A slender shrub 2-6 m. high, usually several stems to the clump and the branches often in irregular whorls..."
404	1976. Blair, R.M./Enghardt, H.G.. Deer Forage and Overstory Dynamics in a Loblolly Pine Plantation. <i>Journal of Range Management</i> . 29(2): 104-108.	[Unpalatable to grazing animals? Possibly] [Unpalatable to deer] "Principal nonpalatable species were muscadine grape ( <i>Vitis rotundifolia</i> ), sweetgum, southern bayberry, southern red oak, post oak ( <i>Quercus stellata</i> ), common deerberry ( <i>Vaccinium stamineum</i> ), and rabbiteye blueberry ( <i>Vaccinium virgatum</i> )."
404	1980. Blair, R.M./Brunett, L.E.. Seasonal Browse Selection by Deer in a Southern Pine-Hardwood Habitat. <i>The Journal of Wildlife Management</i> . 44(1): 79-88.	[Unpalatable to grazing animals? Possibly, although deer will eat them when more preferred food is unavailable] "Variations in use among high- and medium-choice species can be expected, but increasing use on low-choice or nonpreferred species signals an overpopulation of deer in relation to their food supply. The trend of increasing use throughout the year on species regarded as nonpreferred and on some of the more abundant low choice species such as American beautyberry, Elliott's blueberry ( <i>Vaccinium elliotii</i> ), deerberry ( <i>Vaccinium stamineum</i> ), and rabbiteye blueberry ( <i>Vaccinium virgatum</i> ) persisted at the high deer stocking level from 1966 to 1970."

404	2011. Backyard Gardener. <i>Vaccinium ashei</i> . <a href="http://www.backyardgardener.com/plantname/pda_e104.html">http://www.backyardgardener.com/plantname/pda_e104.html</a>	[Unpalatable to grazing animals? Possibly. Presumably yes if tolerant of rabbits] "Tolerances: heat & humidity, rabbits,"
405	1931. Reade, J.M.. <i>Vaccinium ashei</i> sp. Nov. <i>Torreyia</i> . 31(3): 71-72.	[Toxic to animals? No] No evidence
405	2010. <a href="http://www.gardenguides.com/taxonomy/highbush-blueberry-vaccinium-corymbosum/">gardenguides.com</a> . Highbush Blueberry ( <i>Corymbosum</i> ). <a href="http://www.gardenguides.com/taxonomy/highbush-blueberry-vaccinium-corymbosum/">http://www.gardenguides.com/taxonomy/highbush-blueberry-vaccinium-corymbosum/</a>	[Toxic to animals? No] "Toxic to Livestock: No" [ <i>Vaccinium</i> species not known to be toxic to animals]
406	1977. Milholland, R.D.. <i>Cercospora</i> Stem Blotch Disease of Rabbiteye Blueberry. <i>Phytopathology</i> . 67: 816-819.	[Host for recognized pests and pathogens? Potentially] "A <i>Cercospora</i> sp. was isolated and identified as the causal organism of stem blotch of rabbiteye blueberry. Symptoms of the disease appear as red blotches on previous season's growth. Conidia and conidiophores are produced on a fasciculate stroma that emerges from stomates. Hyphal growth is intercellular, causing hyperplasia and hypertrophy of the cortical parenchyma. Periderm was produced by the phloem parenchyma in response to the pathogen. Typical lesions exhibit collapse and necrosis of cells in the cortex, pericycle, and phloem within 1 yr after infection."
406	1997. Smith, B.J.. Detached stem assay to evaluate the severity of stem blight of rabbiteye blueberry ( <i>Vaccinium ashei</i> ). <i>Acta Horticulturae</i> (ISHS). 446: 457-464. <a href="http://www.actahort.org/books/446/446_66.htm">http://www.actahort.org/books/446/446_66.htm</a>	[Host for recognized pests and pathogens? Potentially] "The susceptibility of five rabbiteye blueberry cultivars to stem blight ( <i>Botryosphaeria dothidea</i> ) was compared using field, greenhouse and laboratory inoculations. In each test, succulent, partially-hardened stems were wounded by scraping away a 2 x 4 mm section of bark 50 mm from the tip of the stem and inoculated by securing against the wound a 2 mm mycelial square cut from a 14-day old potato dextrose agar culture of the pathogen. For the detached stem assay, 150 mm shoots were cut from the plants, and all leaves except the terminal three were removed. The stem was inoculated, inserted into moistened, sterilized sand in a 150 x 25 mm tissue culture tube, and incubated at 20 C. In each test there were significant differences in lesion length among cultivars 20 days after inoculation. Relative cultivar susceptibility was similar in each assay procedure with 'Tifblue' being the most susceptible of the cultivars tested. The detached stem assay can be used in a breeding program to efficiently identify resistant genotypes."
406	1998. McEachern, G.R.. Rabbiteye Blueberries. <a href="http://aggie-horticulture.tamu.edu/extension/fruit/blueberry/blueberries.html">http://aggie-horticulture.tamu.edu/extension/fruit/blueberry/blueberries.html</a>	[Host for recognized pests and pathogens? No] "Rabbiteye blueberries ( <i>Vaccinium ashei</i> ) are grown in popularity all across the South. Part of the reason for the popularity of rabbiteye blueberries may be that no major pests have been identified on them."
406	2003. Finn, E.. Developing integrated pest management (IPM) techniques for managing key insect pests of blueberries in the Southeastern United States. MSc Thesis. University of Florida, Gainesville, FL	[Host for recognized pests and pathogens? Potentially] "The blueberry gall midge is a primary pest affecting rabbiteye ( <i>Vaccinium ashei</i> Reade) blueberry plantings in the southeastern United States (Lyrene and Payne 1995). Prior to 1992, floral bud abortion caused by <i>D. oxycoccana</i> in rabbiteye blueberries had not been correctly diagnosed, and therefore chemical control had not been recommended (Lyrene and Payne 1992). Since then, <i>D. oxycoccana</i> infestations have increased significantly, destroying up to 80% of floral buds on susceptible rabbiteye cultivars."

406	2004. Roloff, I./Schem, H.. Photosynthesis of Blueberry Leaves as Affected by Septoria Leaf Spot and Abiotic Leaf Damage. Plant Disease. 88(4): 397-401.	[Host for recognized pests and pathogens? Potentially] "Leaf spots caused by fungal pathogens or abiotic factors can be prevalent on southern blueberries after harvest during the summer and fall, yet little is known about how they affect physiological processes that determine yield potential for the following year. In this study, we measured CO <sub>2</sub> assimilation and leaf conductance on field-grown blueberry plants affected by Septoria leaf spot (caused by <i>Septoria albopunctata</i> ) or by edema like abiotic leaf blotching. Net assimilation rate (NAR) on healthy leaves varied between 6.9 and 12.4 $\mu\text{mol m}^{-2} \text{s}^{-1}$ across cultivars and measurement dates. Infection by <i>S. albopunctata</i> had a significant negative effect on photosynthesis, with NAR decreasing exponentially as disease severity increased ( $R^2 \geq 0.726$ , $P < 0.0001$ ). NAR was reduced by approximately one-half at 20% disease severity, and values approached zero for leaves with >50% necrotic leaf area. There was a positive, linear correlation between NAR and leaf conductance ( $R^2 \geq 0.622$ , $P < 0.0001$ ), suggesting that the disease may have reduced photosynthesis via decreased CO <sub>2</sub> diffusion into affected leaves. Estimates of virtual lesion size associated with infection by <i>S. albopunctata</i> ranged from 2.8 to 3.1, indicating that the leaf area in which photosynthesis was impaired was about three times as large as the area covered by necrosis. For leaves afflicted by edema-like damage, there also was a significant negative relationship between NAR and affected leaf area, but the scatter about the regression was more pronounced than in the NAR disease severity relationships for <i>S. albopunctata</i> ( $R^2 = 0.548$ , $P < 0.0001$ ). No significant correlation was observed between leaf conductance and affected area on these leaves ( $P = 0.145$ ), and the virtual lesion size associated with abiotic damage was significantly smaller than that caused by <i>S. albopunctata</i> . Adequate carbohydrate supply during the fall is critical for optimal flower bud set in blueberry; therefore, these results document the potential for marked yield losses due to biotic and abiotic leaf spots."
406	2007. USDA. Importation of fresh highbush & rabbit-eye blueberry ( <i>Vaccinium corymbosum</i> L & <i>V. virgatum</i> Aiton) fruit into the Continental United States from Uruguay. USDA Animal & Plant Health Inspection Service, Raleigh, NC	[Host for recognized pests and pathogens? Potentially] "The pest risk assessment for fresh blueberries ( <i>Vaccinium corymbosum</i> and <i>V. virgatum</i> ) for consumption from Uruguay identified two fruit flies, <i>Anastrepha fraterculus</i> and <i>Ceratitis capitata</i> as quarantine pests likely to follow the pathway. Further analysis indicated these pests represent a high risk potential to the [continental] United States. Numerous different treatments have been developed to kill fruit infestations of fruit flies, but only four of these may be effective in blueberries without adversely affecting the fruit. These options are briefly discussed below."
407	1987. Roecklein, J.C./Leung, P. (eds.). A Profile of economic plants. Transaction Publishers, New Brunswick, NJ	[Causes allergies or is otherwise toxic to humans? No] "The rabbit-eye blueberry is a shrubby plant of the southern United States. It produces edible berries that are used in jams, jellies, and pies." [Used for human consumption with no evidence of toxicity]
408	1974. Ward, D.B.. Contributions to the Flora of Florida: 6, <i>Vaccinium</i> (Ericaceae). Castanea. 39(3): 191-205.	[Creates a fire hazard in natural ecosystems? No] "Swamps and streambottom forests, occasionally in drier woods. Northern Florida to Mississippi and Georgia." [Not in wetter habitats]
408	1995. Olson, M.S./Platt, W.J.. Effects of Habitat and Growing Season Fires on Resprouting of Shrubs in Longleaf Pine Savannas. Vegetatio. 119(2): 101-118.	[Creates a fire hazard in natural ecosystems? No] No evidence
409	2011. Benny Simpson's Texas Native Shrubs. Rabbit-eye Blueberry, Medium-cluster Blueberry, <i>Vaccinium virgatum</i> . <a href="http://aggie-horticulture.tamu.edu/ornamentals/nativeshrubs/vacciniumvirgat.htm">http://aggie-horticulture.tamu.edu/ornamentals/nativeshrubs/vacciniumvirgat.htm</a>	[Is a shade tolerant plant at some stage of its life cycle? Possibly] "Large colonies of rabbit-eye blueberry can form dense clumps up to 3 ft. in diameter, so it would be useful for erosion control in shaded damp areas... Exposure: partial sun"
409	2011. Floridata. <i>Vaccinium ashei</i> . <a href="http://www.floridata.com/ref/v/vac_ashe.cfm">http://www.floridata.com/ref/v/vac_ashe.cfm</a>	[Is a shade tolerant plant at some stage of its life cycle? Possibly] "When planting, space them 4-5 ft (1.2-1.5 m) apart in full sun to partial shade..."
409	2011. Plants For A Future Database. <i>Vaccinium ashei</i> . <a href="http://www.pfaf.org/user/Plant.aspx?LatinName=Vaccinium+ashei">http://www.pfaf.org/user/Plant.aspx?LatinName=Vaccinium+ashei</a>	[Is a shade tolerant plant at some stage of its life cycle? Possibly] "It can grow in semi-shade (light woodland) or no shade...Succeeds in full sun or light shade though it fruits better in a sunny position"
410	1996. Garrett, H.. Howard Garrett's Plants for Texas. University of Texas Press, Austin, TX	[Tolerates a wide range of soil conditions? No] "Very particular about soil conditions. Will die in anything but sandy, acid soil."
410	1998. McEachern, G.R.. Rabbiteye Blueberries. <a href="http://aggie-horticulture.tamu.edu/extension/fruit/blueberry/bluberries.html">http://aggie-horticulture.tamu.edu/extension/fruit/blueberry/bluberries.html</a>	[Tolerates a wide range of soil conditions? No] "Rabbiteye blueberries are one of the few crops that require very special soil; a pH of 4.0 to 5.0 is required for good plant growth; the plants will not live in soils with a pH above 5.5. "
410	2011. Floridata. <i>Vaccinium ashei</i> . <a href="http://www.floridata.com/ref/v/vac_ashe.cfm">http://www.floridata.com/ref/v/vac_ashe.cfm</a>	[Tolerates a wide range of soil conditions? No] "Rabbiteye blueberries are among the easiest fruits to grow IF you have the right kind of soil. They will not tolerate clay or water-logged soils, and like azaleas, they must have a low pH (4.2 to 5.5)."

411	1931. Reade, J.M.. <i>Vaccinium ashei</i> sp. Nov. Torreya. 31(3): 71-72.	[Climbing or smothering growth habit? No] "A slender shrub 2-6 m. high, usually several stems to the clump and the branches often in irregular whorls..."
412	2011. Benny Simpson's Texas Native Shrubs. Rabbit-eye Blueberry, Medium-cluster Blueberry, <i>Vaccinium virgatum</i> . <a href="http://aggie-horticulture.tamu.edu/ornamentals/nativeshrubs/vacciniumvirgat.htm">http://aggie-horticulture.tamu.edu/ornamentals/nativeshrubs/vacciniumvirgat.htm</a>	[Forms dense thickets? Possibly] "Large colonies of rabbit-eye blueberry can form dense clumps up to 3 ft. in diameter, so it would be useful for erosion control in shaded damp areas... Width: 3 feet, thicket-forming" [Unknown if dense clumps exclude other vegetation]
501	1931. Reade, J.M.. <i>Vaccinium ashei</i> sp. Nov. Torreya. 31(3): 71-72.	[Aquatic? No] [Terrestrial] "A slender shrub 2-6 m. high, usually several stems to the clump and the branches often in irregular whorls..."
502	1931. Reade, J.M.. <i>Vaccinium ashei</i> sp. Nov. Torreya. 31(3): 71-72.	[Grass? No] Ericaceae
503	1994. Zomlefer, W.B.. Guide to Flowering Plant Families. The University of North Carolina Press, Chapel Hill & London	[Nitrogen fixing woody plant? No] Not known in Ericaceae
504	1931. Reade, J.M.. <i>Vaccinium ashei</i> sp. Nov. Torreya. 31(3): 71-72.	[Geophyte (herbaceous with underground storage organs -- bulbs, corms, or tubers)? No] "A slender shrub 2-6 m. high, usually several stems to the clump and the branches often in irregular whorls; bark brown and stringy."
601	1989. Uttal, L.J.. New South Carolina Records. Castanea. 54(4): 270-272.	[Evidence of substantial reproductive failure in native habitat? No] "I have found <i>Vaccinium virgatum</i> is actually a common undershrub in sandy oak or oak pine woods and swamp knolls on the Coastal Plain. It is strongly invasive in sandy, cut over woods often accompanied by its close dwarf relative, <i>Vaccinium tenellum</i> Ait...These plants were formerly separated as <i>Vaccinium ashei</i> , the "rabbit-eye" blueberry of commerce which has been found to be quite hardy and is cultivated as far north as West Virginia."
602	1931. Reade, J.M.. <i>Vaccinium ashei</i> sp. Nov. Torreya. 31(3): 71-72.	[Produces viable seed? Yes] "Fruit subglobose, 11-16 mm., purplish black, often with a slight bloom, sweet, ripening irregularly from the end of May to the middle of July. Seeds 20-30, chestnut brown, pitted, about 1.5 by 1 mm."
602	2011. Plants For A Future Database. <i>Vaccinium ashei</i> . <a href="http://www.pfaf.org/user/Plant.aspx?LatinName=Vaccinium+ashei">http://www.pfaf.org/user/Plant.aspx?LatinName=Vaccinium+ashei</a>	[Produces viable seed? Yes] "Seed - sow late winter in a greenhouse in a lime-free potting mix and only just cover the seed[78]. Stored seed might require a period of up to 3 months cold stratification[113]. Another report says that it is best to sow the seed in a greenhouse as soon as it is ripe[200]. Once they are about 5cm tall, prick the seedlings out into individual pots and grow them on in a lightly shaded position in the greenhouse for at least their first winter. Plant them out into their permanent positions in late spring or early summer, after the last expected frosts."
603	2009. Ballington, J.R.. The role of interspecific hybridization in blueberry improvement. Acta Horticulturae (ISHS). 810: 49-60. <a href="http://www.actahort.org/books/810/810_2.htm">http://www.actahort.org/books/810/810_2.htm</a>	[Hybridizes naturally? Unknown] "Interspecific hybridization has played a significant role in blueberry improvement from its beginnings early in the Twentieth Century and continues to be important today. With the tetraploid highbush blueberry, <i>Vaccinium corymbosum</i> (2n=4x=48), interspecific hybridization has primarily involved species in the secondary gene pool, i.e., other species in <i>Vaccinium</i> section <i>Cyanococcus</i> . The species used in interspecific hybridization for improvement of highbush blueberry types up to the present time are <i>V. angustifolium</i> (lowbush blueberry, 2n=4x=48), <i>V. darrowii</i> (Darrow's evergreen blueberry, 2n=2x=24), <i>V. virgatum</i> (rabbiteye blueberry, 2n=6x=72), <i>V. tenellum</i> (southern lowbush blueberry, 2n=2x=24), <i>V. elliotii</i> (Mayberry, 2n=2x=24) and <i>V. constablaei</i> (Constable's blueberry, 2n=6x=72). One or more generations of backcrossing are most commonly involved where interspecific hybridization has been utilized successfully in highbush blueberry improvement. Interspecific hybridization has played a minor role in improvement of cultivated hexaploid rabbiteye blueberries ( <i>V. virgatum</i> ) up to the present time. Where it has been utilized it has only involved <i>V. constablaei</i> in the secondary gene pool. Only one F1 and one BC1 interspecific hybrid hexaploid cultivar have been named to date. Cultivar improvement in tetraploid lowbush blueberries has been confined exclusively to the primary gene pool of <i>V. angustifolium</i> to date. <i>Vaccinium pallidum</i> holds promise for contributing to future highbush and halfhigh blueberry improvement. <i>Vaccinium constablaei</i> and hexaploid southern highbush will probably contribute significantly to rabbiteye blueberry improvement in the future. Intersectional crosses among tetraploid species also may be promising for future blueberry cultivar improvement."
604	1996. Garrett, H.. Howard Garrett's Plants for Texas. University of Texas Press, Austin, TX	[Self-compatible or apomictic? No] "Cross-pollinating"
604	2004. Dedej, S./Deleplane, K.S.. Nectar-Robbing Carpenter Bees Reduce Seed-Setting Capability of Honey Bees (Hymenoptera: Apidae) in Rabbiteye Blueberry, <i>Vaccinium ashei</i> , 'Climax'. Environmental Entomology. 33(1): 100-106.	[Self-compatible or apomictic? No] "Although <i>V. ashei</i> is considered self-sterile, there is a degree of variation in the expression of this character (Meader and Darrow 1944)."

604	2011. Plants For A Future Database. <i>Vaccinium ashei</i> . <a href="http://www.pfaf.org/user/Plant.aspx?LatinName=Vaccinium+ashei">http://www.pfaf.org/user/Plant.aspx?LatinName=Vaccinium+ashei</a>	[Self-compatible or apomictic? No] "The flowers are hermaphrodite (have both male and female organs) and are pollinated by Insects. The plant is not self-fertile."
605	1993. Cane, J.H./Payne, J.A.. Regional, Annual, and Seasonal Variation in Pollinator Guilds: Intrinsic Traits of Bees (Hymenoptera: Apoidea) Underlie Their Patterns of Abundance at <i>Vaccinium ashei</i> (Ericaceae). <i>Annals of the Entomological Society of America</i>	[Requires specialist pollinators? No] "We studied the numerical importance of bees as pollinators of rabbiteye blueberry, <i>Vaccinium ashei</i> Reade, in the southeastern United States. Most of the 27 bee species were rare at <i>V. ashei</i> flowers. Three taxa of bees were often abundant at <i>V. ashei</i> : the honey bee, <i>Apis mellifera</i> L.; queens of four bumble bee species ( <i>Bombus</i> spp.); and the southeastern blueberry bee, <i>Habropoda laboriosa</i> (F.). Most bee species that co occur with cultivated <i>V. ashei</i> do not visit its flowers either because adults emerge late in the spring following bloom, or their tongues are too short to probe the flowers effectively. The more common bees varied in their regional, annual, and seasonal abundances at cultivated <i>V. ashei</i> , reflecting inherent differences in sociality, foraging predilections, voltinism, and adult phenologies. Our censuses showed that <i>H. laboriosa</i> is a <i>Vaccinium</i> specialist (2 yr, two states, four habitats). Compared with the other common bees, abundance of <i>H. laboriosa</i> at <i>V. ashei</i> was most variable regionally, least variable annually, and most predictable daily during a flowering season. For 6 yr, adult activity of <i>Bombus</i> queens and univoltine <i>H. laboriosa</i> generally spanned the season of <i>V. ashei</i> flowering. Spatial patchiness but local reliability of <i>H. laboriosa</i> may be an outcome of its oligolectic floral preferences. In contrast, polylectic honey and bumble bees were regionally ubiquitous. However, the temporal abundance of honey bees fluctuated markedly at <i>V. ashei</i> , perhaps reflecting their shifting preferences among competing members of a local flora."
605	2004. Dedej, S./Deleplane, K.S.. Nectar-Robbing Carpenter Bees Reduce Seed-Setting Capability of Honey Bees (Hymenoptera: Apidae) in Rabbiteye Blueberry, <i>Vaccinium ashei</i> , 'Climax'. <i>Environmental Entomology</i> . 33(1): 100-106.	[Requires specialist pollinators? No] "Honey bees are effective pollinators of <i>V. ashei</i> 'Climax' (Sampson and Cane 2000, Dedej and Delaplane 2003), but it is possible that their efficacy is compromised when they are diverted to robbing behavior."
606	1999. Oklahoma Biological Survey. <i>Vaccinium virgatum</i> Ait.. <a href="http://www.biosurvey.ou.edu/shrub/vacc-vir.htm">http://www.biosurvey.ou.edu/shrub/vacc-vir.htm</a>	[Reproduction by vegetative fragmentation? Possibly] "Shrub to 1 m (3 ft) tall, often found in large clonal colonies."
606	2011. Floridata. <i>Vaccinium ashei</i> . <a href="http://www.floridata.com/ref/v/vac_ashe.cfm">http://www.floridata.com/ref/v/vac_ashe.cfm</a>	[Reproduction by vegetative fragmentation? Possibly] "Without pruning, most varieties of rabbiteye blueberries are rather open, spreading shrubs that grow up to 12 ft (3.7 m) tall. Shoots often sprout from the roots producing new bushes."
607	1987. Roecklein, J.C./Leung, P. (eds.). A Profile of economic plants. Transaction Publishers, New Brunswick, NJ	[Minimum generative time (years)? 3] "Blueberry yields from 3 year old plants are about 3 liters/plant." [Starts producing at 3 years, if not sooner]
607	1996. Garrett, H.. Howard Garrett's Plants for Texas. University of Texas Press, Austin, TX	[Minimum generative time (years)? 3+] "Bushes mature in 7-8 years."
701	1931. Reade, J.M.. <i>Vaccinium ashei</i> sp. Nov. <i>Torreyia</i> . 31(3): 71-72.	[Propagules likely to be dispersed unintentionally (plants growing in heavily trafficked areas)? No] "Fruit subglobose, 11-16 mm., purplish black, often with a slight bloom, sweet, ripening irregularly from the end of May to the middle of July. Seeds 20-30, chestnut brown, pitted, about 1.5 by 1 mm." [No means of external attachment]
702	1931. Reade, J.M.. <i>Vaccinium ashei</i> sp. Nov. <i>Torreyia</i> . 31(3): 71-72.	[Propagules dispersed intentionally by people? Yes] "Near Pensacola it is being cultivated under the name of "rabbit-eye huckleberry." On account of the large size of the fruit and its fine flavor it seems to be a most desirable sort for cultivation on the sandy soils of the coastal plains region. The fruit ripens somewhat irregularly, however."
702	2011. Floridata. <i>Vaccinium ashei</i> . <a href="http://www.floridata.com/ref/v/vac_ashe.cfm">http://www.floridata.com/ref/v/vac_ashe.cfm</a>	[Propagules dispersed intentionally by people? Yes] " <i>Vaccinium ashei</i> is native to the southeastern U.S. where they occur in mixed woods, on high banks along streams or rivers, and in pine flatwoods communities. They are cultivated commercially from Virginia and Tennessee, west to Arkansas and Texas, and south to central Florida. The related highbush blueberries ( <i>V. corymbosum</i> ) are grown farther north."
703	2004. Dedej, S.. Bee Foraging Behavior and Pollination Activity on Rabbiteye Blueberry <i>Vaccinium ashei</i> Reade. PhD Dissertation. University of Georgia, Athens, GA	[Propagules likely to disperse as a produce contaminant? No] No evidence
703	2007. USDA. Importation of fresh highbush & rabbit-eye blueberry ( <i>Vaccinium corymbosum</i> L & <i>V. virgatum</i> Aiton) fruit into the Continental United States from Uruguay. USDA Animal & Plant Health Inspection Service, Raleigh, NC	[Propagules likely to disperse as a produce contaminant? No] No evidence



704	1931. Reade, J.M.. <i>Vaccinium ashei</i> sp. Nov. <i>Torreya</i> . 31(3): 71-72.	[Propagules adapted to wind dispersal? No] "Fruit subglobose, 11-16 mm., purplish black, often with a slight bloom, sweet, ripening irregularly from the end of May to the middle of July. Seeds 20-30, chestnut brown, pitted, about 1.5 by 1 mm." [Fleshy-fruited]
705	1974. Ward, D.B.. Contributions to the Flora of Florida: 6, <i>Vaccinium</i> (Ericaceae). <i>Castanea</i> . 39(3): 191-205.	[Propagules water dispersed? Potentially] "Swamps and streambottom forests, occasionally in drier woods. Northern Florida to Mississippi and Georgia." [Distribution suggests fruits and seeds may be dispersed by water]
706	1931. Reade, J.M.. <i>Vaccinium ashei</i> sp. Nov. <i>Torreya</i> . 31(3): 71-72.	[Propagules bird dispersed? Yes] "Fruit subglobose, 11-16 mm., purplish black, often with a slight bloom, sweet, ripening irregularly from the end of May to the middle of July. Seeds 20-30, chestnut brown, pitted, about 1.5 by 1 mm." [Fleshy-fruited]
706	1998. McEachern, G.R.. Rabbiteye Blueberries. <a href="http://aggie-horticulture.tamu.edu/extension/fruit/blueberry/blueberries.html">http://aggie-horticulture.tamu.edu/extension/fruit/blueberry/blueberries.html</a>	[Propagules bird dispersed? Yes] "Birds seem to be the key pests."
706	2011. Floridata. <i>Vaccinium ashei</i> . <a href="http://www.floridata.com/ref/v/vac_ashe.cfm">http://www.floridata.com/ref/v/vac_ashe.cfm</a>	[Propagules bird dispersed? Yes] "The powdery blue berries that follow are a delight to the eye and palate and are relished by many kinds of birds."
707	1931. Reade, J.M.. <i>Vaccinium ashei</i> sp. Nov. <i>Torreya</i> . 31(3): 71-72.	[Propagules dispersed by other animals (externally)? No] "Fruit subglobose, 11-16 mm., purplish black, often with a slight bloom, sweet, ripening irregularly from the end of May to the middle of July. Seeds 20-30, chestnut brown, pitted, about 1.5 by 1 mm." [No means of external attachment]
708	1931. Reade, J.M.. <i>Vaccinium ashei</i> sp. Nov. <i>Torreya</i> . 31(3): 71-72.	[Propagules survive passage through the gut? Presumably Yes] "Fruit subglobose, 11-16 mm., purplish black, often with a slight bloom, sweet, ripening irregularly from the end of May to the middle of July. Seeds 20-30, chestnut brown, pitted, about 1.5 by 1 mm." [Fleshy-fruited]
801	1999. Oklahoma Biological Survey. <i>Vaccinium virgatum</i> Ait.. <a href="http://www.biosurvey.ou.edu/shrub/vacc-vir.htm">http://www.biosurvey.ou.edu/shrub/vacc-vir.htm</a>	[Prolific seed production (>1000/m <sup>2</sup> )? Unknown] "Fruits black, berry-like, 6-8 mm (1/4-2/5 in) in diameter, many-seeded, poorly flavored."
802	2008. Royal Botanic Gardens Kew. Seed Information Database (SID). Version 7.1. <a href="http://data.kew.org/sid/">http://data.kew.org/sid/</a>	[Evidence that a persistent propagule bank is formed (>1 yr)? Potentially] "Storage Conditions: Viability can be maintained for 12 years at 5°C (Darrow & Scott, 1954)" [Not evidence of persistence in field conditions]
803	2011. WRA Specialist. Personal Communication.	[Well controlled by herbicides? Unknown] No information on herbicide efficacy or control of this species
804	2011. Floridata. <i>Vaccinium ashei</i> . <a href="http://www.floridata.com/ref/v/vac_ashe.cfm">http://www.floridata.com/ref/v/vac_ashe.cfm</a>	[Tolerates, or benefits from, mutilation, cultivation, or fire? Yes] "Without pruning, most varieties of rabbiteye blueberries are rather open, spreading shrubs that grow up to 12 ft (3.7 m) tall. Shoots often sprout from the roots producing new bushes."
805	2009. Follett, P.A./Armstrong, J.W./Zee, F.T.. Host Status of Blueberry to Invasive Tephritid Fruit Flies in Hawaii. <i>Journal of Economic Entomology</i> . 102(5): 1859-1863.	[Effective natural enemies present locally (e.g. introduced biocontrol agents)? Unknown] "Forced infestation studies were conducted to determine whether northern or southern highbush blueberries, <i>Vaccinium corymbosum</i> L., are hosts for the invasive tephritid fruit flies in Hawaii. Fruit were exposed to gravid female flies of <i>Bactrocera dorsalis</i> Hendel (oriental fruit fly), <i>Ceratitidis capitata</i> (Wiedemann) (Mediterranean fruit fly), or <i>Bactrocera cucurbitae</i> Coquillett (melon fly) in screen cages outdoors for 6 h and then held on sand in the laboratory for 2 wk for pupal and adult emergence...Results from rearing on sand and diet indicate that blueberry is an acceptable oviposition host for <i>B. latifrons</i> but not an adequate developmental host. These data suggest blueberry is potentially a good host for <i>B. dorsalis</i> and <i>C. capitata</i> , and an adequate host for <i>Bactrocera cucurbitae</i> , but that there may be significant variation in resistance among cultivars. Blueberry seems to be a nonhost for <i>B. latifrons</i> ." [No evidence for <i>V. virgatum</i> ]