

**Family:** *Anacardiaceae*  
**Taxon:** *Cotinus coggygria*  
**Synonym:** *Rhus cotinus* L.

**Common Name:** fustet  
smokebush  
smoketree  
Venetian-sumac  
wigtree  
young fustic  
fustete

Questionnaire :	current 20090513	Assessor:	Patti Clifford	Designation:	EVALUATE
Status:	Assessor Approved	Data Entry Person:	Patti Clifford	<b>WRA Score 4</b>	
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)		Intermediate
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		y
205	Does the species have a history of repeated introductions outside its natural range?		y=-2, ?=-1, n=0		y
301	Naturalized beyond native range		y = 1*multiplier (see Appendix 2), n= question 205		n
302	Garden/amenity/disturbance weed		n=0, y = 1*multiplier (see Appendix 2)		n
303	Agricultural/forestry/horticultural weed		n=0, y = 2*multiplier (see Appendix 2)		y
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		n
408	Creates a fire hazard in natural ecosystems		y=1, n=0		

409	Is a shade tolerant plant at some stage of its life cycle	y=1, n=0	
410	Tolerates a wide range of soil conditions (or limestone conditions if not a volcanic island)	y=1, n=0	y
411	Climbing or smothering growth habit	y=1, n=0	n
412	Forms dense thickets	y=1, n=0	
501	Aquatic	y=5, n=0	n
502	Grass	y=1, n=0	n
503	Nitrogen fixing woody plant	y=1, n=0	n
504	Geophyte (herbaceous with underground storage organs -- bulbs, corms, or tubers)	y=1, n=0	n
601	Evidence of substantial reproductive failure in native habitat	y=1, n=0	n
602	Produces viable seed	y=1, n=-1	y
603	Hybridizes naturally	y=1, n=-1	
604	Self-compatible or apomictic	y=1, n=-1	n
605	Requires specialist pollinators	y=-1, n=0	n
606	Reproduction by vegetative fragmentation	y=1, n=-1	n
607	Minimum generative time (years)	1 year = 1, 2 or 3 years = 0, 4+ years = -1	
701	Propagules likely to be dispersed unintentionally (plants growing in heavily trafficked areas)	y=1, n=-1	n
702	Propagules dispersed intentionally by people	y=1, n=-1	y
703	Propagules likely to disperse as a produce contaminant	y=1, n=-1	n
704	Propagules adapted to wind dispersal	y=1, n=-1	y
705	Propagules water dispersed	y=1, n=-1	
706	Propagules bird dispersed	y=1, n=-1	
707	Propagules dispersed by other animals (externally)	y=1, n=-1	n
708	Propagules survive passage through the gut	y=1, n=-1	
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	y
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 4

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**Supporting Data:**

101	2010. WRA Specialist. Personal Communication.	No evidence of domestication.
102	2010. WRA Specialist. Personal Communication.	N/A
103	2010. WRA Specialist. Personal Communication.	N/A
201	2010. USDA, ARS, National Genetic Resources Program. Germplasm Resources Information Network (GRIN) [Online Database Index]. National Germplasm Resources Laboratory, Beltsville, Maryland <a href="http://www.ars-grin.gov/cgi-bin/npgs/html/index.pl">http://www.ars-grin.gov/cgi-bin/npgs/html/index.pl</a>	Native range: Iran; Syria; Turkey; Armenia; Azerbaijan; Georgia; Russian Federation; China; India; Nepal; Pakistan; Austria; Hungary; Switzerland; Ukraine; Albania; Bulgaria; Former Yugoslavia; Greece; Italy; Romania; France
202	2010. USDA, ARS, National Genetic Resources Program. Germplasm Resources Information Network (GRIN) [Online Database Index]. National Germplasm Resources Laboratory, Beltsville, Maryland <a href="http://www.ars-grin.gov/cgi-bin/npgs/html/index.pl">http://www.ars-grin.gov/cgi-bin/npgs/html/index.pl</a>	Native range: Iran; Syria; Turkey; Armenia; Azerbaijan; Georgia; Russian Federation; China; India; Nepal; Pakistan; Austria; Hungary; Switzerland; Ukraine; Albania; Bulgaria; Former Yugoslavia; Greece; Italy; Romania; France
203	2008. Min, T./Barfod, A.. Flora of China volume 11 - Anacardiaceae. Science Press Beijing and Missouri Botanical Garden Press, St. Louis	"Hill forests, hill and mountain thickets; 700-2400 m. Gansu, Guizhou, Hebei, Henan, Hubei, Jiangsu, Shaanxi, Shandong, Shanxi, Sichuan, Yunnan, Zhejiang [NW India, Nepal, Pakistan; SW Asia, Europe]."
203	2010. Plants for a Future Database. <i>Cotinus coggygria</i> - Scop.. Plants for a Future Database, <a href="http://www.pfaf.org/user/Plant.aspx?LatinName=Cotinus%20coggygria">http://www.pfaf.org/user/Plant.aspx?LatinName=Cotinus%20coggygria</a>	Dry hillsides, rocky places and open woods, usually on limestone, to 1300 metres
204	2010. USDA, ARS, National Genetic Resources Program. Germplasm Resources Information Network (GRIN) [Online Database Index]. National Germplasm Resources Laboratory, Beltsville, Maryland <a href="http://www.ars-grin.gov/cgi-bin/npgs/html/index.pl">http://www.ars-grin.gov/cgi-bin/npgs/html/index.pl</a>	Native in India; Nepal; Pakistan.
205	2002. Pysek, P./Sadlo, J./Mandak, B.. Catalogue of alien plants of the Czech Republic. Preslia, Praha. 74: 97-186. <a href="http://www.parkpruhonice.cz/personal/pysek/pdf/catalogue_preslia%202002.pdf">http://www.parkpruhonice.cz/personal/pysek/pdf/catalogue_preslia%202002.pdf</a>	<i>Cotinus coggygria</i> was introduced to the Czech Republic in the late 1800's for landscaping purposes.
205	2010. Robbins, J.. Smokebush - <i>Cotinus coggygria</i> - shrub profile. University of Arkansas Department of Agriculture Cooperative Extension Service, <a href="http://www.aragriculture.org/horticulture/ornamentals/plant_database/shrubs/profiles/smokebush.pdf">http://www.aragriculture.org/horticulture/ornamentals/plant_database/shrubs/profiles/smokebush.pdf</a>	<i>Cotinus coggygria</i> has been a staple of American gardens for a long time. English literature describes this plant in use as early as the 1500's.
301	2010. WRA Specialist. Personal Communication.	No evidence of naturalization.
302	2007. Randall, R.P.. Global Compendium of Weeds [Online Database]. <a href="http://www.hear.org/gcw/">http://www.hear.org/gcw/</a>	No evidence. Although listed as casual alien and cultivation escape. [no control mentioned]
303	2010. Beasley, R.R./Pijut, P.M.. Invasive plant species in hardwood plantations FNR-230-W. Purdue University, Hardwood Tree and Improvement Center, USDA Forest Service, <a href="http://www.extension.purdue.edu/extmedia/FNR/FNR-230-W.pdf">http://www.extension.purdue.edu/extmedia/FNR/FNR-230-W.pdf</a>	According to the Purdue University, the USDA Forest Service Northern Research Station, and the Hardwood Tree Improvement and Regeneration Center, <i>Cotinus coggygria</i> is an invasive species in hardwood tree plantations and forested areas. The species presented in the publication are the most predominant and problematic. The publication provides information on prevention, management, and control measures.
304	2007. Randall, R.P.. Global Compendium of Weeds [Online Database]. <a href="http://www.hear.org/gcw/">http://www.hear.org/gcw/</a>	No evidence.
305	2007. Randall, R.P.. Global Compendium of Weeds [Online Database]. <a href="http://www.hear.org/gcw/">http://www.hear.org/gcw/</a>	No evidence. [no other species in the genus mentioned as invasive]
401	2008. Min, T./Barfod, A.. Flora of China volume 11 - Anacardiaceae. Science Press Beijing and Missouri Botanical Garden Press, St. Louis	No spines, thorns, burrs.

402	2010. WRA Specialist. Personal Communication.	Unknown.
403	2008. Min, T./Barfod, A.. Flora of China volume 11 - Anacardiaceae. Science Press Beijing and Missouri Botanical Garden Press, St. Louis	Not parasitic.
404	2010. Masters, R./Mitchell, P./Dobbs, S.. Ornamental and garden plants: controlling deer damage F-6427. Oklahoma State University Cooperative Extension Unit, <a href="http://www.icwdm.org/publications/pdf/deer/osu_d eerdamage.pdf">http://www.icwdm.org/publications/pdf/deer/osu_d eerdamage.pdf</a>	Rarely damaged by deer.
405	2005. Frohne, D./Pfander, H.J.. Poisonous plants: a handbook for doctors, pharmacists, toxicologists, biologists and veterinarians. Wiley-Blackwell, <a href="http://books.google.com/books?id=gC91F_SwVE UC&amp;pg=PA37&amp;dq=cotinus+coggygia+%2B+%22 toxic%22&amp;hl=en&amp;ei=wDMRT">http://books.google.com/books?id=gC91F_SwVE UC&amp;pg=PA37&amp;dq=cotinus+coggygia+%2B+%22 toxic%22&amp;hl=en&amp;ei=wDMRT</a>	"compounds highly irritating to the skin, such as are present in poison sumach, are absent from the 'latex' of Rhus typhina. Cotinus coggygia, the only endemic member of the Anacardiaceae in Europe, is probably just as harmless. Ippen demonstrated that even patients who had become sensitive to poison sumach did not react when they came in contact wit Rhus typhina or with Cotinus coggygia."
405	2010. National Center for Biotechnology Information. PubMed. U.S. National Library of Medicine, Bethesda, Maryland <a href="http://www.ncbi.nlm.nih.gov/sites/entrez">http://www.ncbi.nlm.nih.gov/sites/entrez</a>	No evidence in PubMed.
406	2010. WRA Specialist. Personal Communication.	Unknown.
407	2005. Frohne, D./Pfander, H.J.. Poisonous plants: a handbook for doctors, pharmacists, toxicologists, biologists and veterinarians. Wiley-Blackwell, <a href="http://books.google.com/books?id=gC91F_SwVE UC&amp;pg=PA37&amp;dq=cotinus+coggygia+%2B+%22 toxic%22&amp;hl=en&amp;ei=wDMRT">http://books.google.com/books?id=gC91F_SwVE UC&amp;pg=PA37&amp;dq=cotinus+coggygia+%2B+%22 toxic%22&amp;hl=en&amp;ei=wDMRT</a>	"compounds highly irritating to the skin, such as are present in poison sumach, are absent from the 'latex' of Rhus typhina. Cotinus coggygia, the only endemic member of the Anacardiaceae in Europe, is probably just as harmless. Ippen demonstrated that even patients who had become sensitive to poison sumach did not react when they came in contact wit Rhus typhina or with Cotinus coggygia."
407	2010. National Center for Biotechnology Information. PubMed. U.S. National Library of Medicine, Bethesda, Maryland <a href="http://www.ncbi.nlm.nih.gov/sites/entrez">http://www.ncbi.nlm.nih.gov/sites/entrez</a>	No evidence of toxicity or allergens in PubMed.
408	2010. WRA Specialist. Personal Communication.	Unknown.
409	2010. Brand, M.H.. Uconn plant database of trees, shrubs and vines - Cotinus coggygia. University of Conneticut, <a href="http://www.hort.uconn.edu/plants/index.html">http://www.hort.uconn.edu/plants/index.html</a>	Full sun
409	2010. Robbins, J.. Smokebush - Cotinus coggygia - shrub profile. University of Arkansas Department of Agriculture Cooperative Extension Service, <a href="http://www.aragriculture.org/horticulture/ornamentals/plant_database/shrubs/profiles/smokebush.pdf">http://www.aragriculture.org/horticulture/ornamentals/plant_database/shrubs/profiles/smokebush.pdf</a>	Full sun or partial shade.
410	2001. Haggard, E.. Trees, shrubs, and roses for midwest gardens. Indiana University Press, <a href="http://books.google.com/books?id=r31L74x-s68C&amp;pg=PA59&amp;dq=cotinus+coggygia&amp;hl=en&amp;ei=wxsRTZryN5H2tgPFzIGWCg&amp;sa=X&amp;oi=book_result&amp;ct=result&amp;resnum=1&amp;ved=0CCgQ6AEwAA#v">http://books.google.com/books?id=r31L74x-s68C&amp;pg=PA59&amp;dq=cotinus+coggygia&amp;hl=en&amp;ei=wxsRTZryN5H2tgPFzIGWCg&amp;sa=X&amp;oi=book_result&amp;ct=result&amp;resnum=1&amp;ved=0CCgQ6AEwAA#v</a>	Adapts well to various types of soil including sweet or acidic; dry or rocky
410	2010. Brand, M.H.. Uconn plant database of trees, shrubs and vines - Cotinus coggygia. University of Conneticut, <a href="http://www.hort.uconn.edu/plants/index.html">http://www.hort.uconn.edu/plants/index.html</a>	Adaptable to many soils and pH.
411	2008. Min, T./Barfod, A.. Flora of China volume 11 - Anacardiaceae. Science Press Beijing and Missouri Botanical Garden Press, St. Louis	Tree.
412	2010. WRA Specialist. Personal Communication.	Unknown.

501	2008. Min, T./Barfod, A.. Flora of China volume 11 - Anacardiaceae. Science Press Beijing and Missouri Botanical Garden Press, St. Louis	Terrestrial.
502	2008. Min, T./Barfod, A.. Flora of China volume 11 - Anacardiaceae. Science Press Beijing and Missouri Botanical Garden Press, St. Louis	Anacardiaceae.
503	2008. Min, T./Barfod, A.. Flora of China volume 11 - Anacardiaceae. Science Press Beijing and Missouri Botanical Garden Press, St. Louis	Anacardiaceae.
504	2008. Min, T./Barfod, A.. Flora of China volume 11 - Anacardiaceae. Science Press Beijing and Missouri Botanical Garden Press, St. Louis	Tree.
601	2010. WRA Specialist. Personal Communication.	No evidence.
602	2003. Piotto, B./DiNoi, A.(eds.). Seed propagation of Mediterranean trees and shrubs. <a href="http://www.apat.gov.it/site/_contentfiles/00025300/25382_manuali_2003_16.pdf">http://www.apat.gov.it/site/_contentfiles/00025300/25382_manuali_2003_16.pdf</a>	"Average germination: 80-90%. The seeds have impermeable seedcoats and, moreover, they have an endogenous dormancy. Before spring sowing, mechanical scarification, or scarification with sulphuric acid (20-80 minutes) is suggested, followed by cold stratification for 60-80 days. Alternatively, summer sowing is possible, immediately after collecting the not completely ripe fruits."
603	2010. WRA Specialist. Personal Communication.	Unknown. [there are numerous cultivars that have been hybridized]
604	2010. Plants for a Future Database. <i>Cotinus coggygia</i> - Scop.. Plants for a Future Database, <a href="http://www.pfaf.org/user/Plant.aspx?LatinName=Cotinus%20coggygia">http://www.pfaf.org/user/Plant.aspx?LatinName=Cotinus%20coggygia</a>	Dioecious.
605	1908. Knuth, P.. Handbook of Flower Pollination. Clarendon Press, Oxford, U.K.	"In Westphalia Herm. Muller chiefly observed Diptera and short-tongued Hymenoptera, but only very few beetles, which do not seem to care much for the dull yellow colour of the flowers. Schulz, on the other hand, saw numerous beetles in the Tyrol, as well as Diptera, wasps, ichneumon-flies, and other short-tongued Hymenoptera. These were so numerous that, on one small bush, he captured 350 individuals belonging to about fifty species in half an hour." [Cotinus coggygia descriptions]
605	2010. Pollen Library. American smoketree ( <i>Cotinus obovatus</i> ). SDI Health LLC, <a href="http://www.pollenlibrary.com/Specie/Cotinus+obovatus/">http://www.pollenlibrary.com/Specie/Cotinus+obovatus/</a>	" <i>Cotinus obovatus</i> a plant used as a source of food for Honey Bees, and may be a flavor of honey such as clover or alfalfa." [species in same genus description of pollinator]
606	2003. Piotto, B./DiNoi, A.(eds.). Seed propagation of Mediterranean trees and shrubs. <a href="http://www.apat.gov.it/site/_contentfiles/00025300/25382_manuali_2003_16.pdf">http://www.apat.gov.it/site/_contentfiles/00025300/25382_manuali_2003_16.pdf</a>	Reproduces by seeds or vegetative cuttings.
607	2010. WRA Specialist. Personal Communication.	Unknown. [it does reproduce from suckering]
701	2010. WRA Specialist. Personal Communication.	No evidence of plants growing in heavily trafficked area.
702	2010. Robbins, J.. Smokebush - <i>Cotinus coggygia</i> - shrub profile. University of Arkansas Department of Agriculture Cooperative Extension Service, <a href="http://www.aragriculture.org/horticulture/ornamentals/plant_database/shrubs/profiles/smokebush.pdf">http://www.aragriculture.org/horticulture/ornamentals/plant_database/shrubs/profiles/smokebush.pdf</a>	<i>Cotinus coggygia</i> has been a staple of American gardens for a long time. English literature describes this plant in use as early as the 1500's.
703	2010. WRA Specialist. Personal Communication.	No evidence of spread through agricultural contamination.
704	1904. Willis, J.C.. A manual and dictionary of the flowering plants and ferns. University Press, <a href="http://books.google.com/books?id=djwXAAAAYA&amp;pg=PA110&amp;dq=rhus+cotinus+%2B+%22dispersal%22&amp;hl=en&amp;ei=YvgYTb7oCJLEsAPJmYGH&amp;sa=X&amp;oi=book_result&amp;ct=result&amp;resn">http://books.google.com/books?id=djwXAAAAYA&amp;pg=PA110&amp;dq=rhus+cotinus+%2B+%22dispersal%22&amp;hl=en&amp;ei=YvgYTb7oCJLEsAPJmYGH&amp;sa=X&amp;oi=book_result&amp;ct=result&amp;resn</a>	In <i>Rhus cotinus</i> , the fruit-head is rolled bodily around by the wind.
704	2008. Min, T./Barfod, A.. Flora of China volume 11 - Anacardiaceae. Science Press Beijing and Missouri Botanical Garden Press, St. Louis	Drupe reniform, ca. 4.5 × 2.5 mm, glabrous

705	2010. WRA Specialist. Personal Communication.	Unknown.
706	2008. Min, T./Barfod, A.. Flora of China volume 11 - Anacardiaceae. Science Press Beijing and Missouri Botanical Garden Press, St. Louis	Drupe reniform, ca. 4.5 × 2.5 mm, glabrous
706	2010. WRA Specialist. Personal Communication.	Unknown.
707	2008. Min, T./Barfod, A.. Flora of China volume 11 - Anacardiaceae. Science Press Beijing and Missouri Botanical Garden Press, St. Louis	Drupe reniform, ca. 4.5 × 2.5 mm, glabrous [no means of external attachment]
708	2008. Min, T./Barfod, A.. Flora of China volume 11 - Anacardiaceae. Science Press Beijing and Missouri Botanical Garden Press, St. Louis	Drupe reniform, ca. 4.5 × 2.5 mm, glabrous
708	2010. WRA Specialist. Personal Communication.	Unknown.
801	2010. WRA Specialist. Personal Communication.	Unknown. [not self-compatible]
802	2001. Baskin, C.C./Baskin, J.M.. Seeds ecology, biogeography, and evolution of dormancy and germination. Academic Press, San Francisco	Physical and physiological dormancy.
802	2003. Piotto, B./DiNoi, A.(eds.). Seed propagation of Mediterranean trees and shrubs. <a href="http://www.apat.gov.it/site/_contentfiles/00025300/25382_manuali_2003_16.pdf">http://www.apat.gov.it/site/_contentfiles/00025300/25382_manuali_2003_16.pdf</a>	"Average germination: 80-90%. The seeds have impermeable seedcoats and, moreover, they have an endogenous dormancy. Before spring sowing, mechanical scarification, or scarification with sulphuric acid (20-80 minutes) is suggested, followed by cold stratification for 60-80 days. Alternatively, summer sowing is possible, immediately after collecting the not completely ripe fruits."
803	2010. WRA Specialist. Personal Communication.	Unknown.
804	1994. Hessayon, D.G.. The flowering shrub expert. Sterling Publishing Company Inc., <a href="http://books.google.com/books?id=oCAXkmpY5wcC&amp;pg=PA34&amp;dq=cotinus+coggygia+%2B+%22years%22+%2B+%22age%22+%2B+%22flower%22&amp;hl=en&amp;ei=ckMRTa26lor6sAPjwcmAg&amp;sa=X&amp;oi=book_res">http://books.google.com/books?id=oCAXkmpY5wcC&amp;pg=PA34&amp;dq=cotinus+coggygia+%2B+%22years%22+%2B+%22age%22+%2B+%22flower%22&amp;hl=en&amp;ei=ckMRTa26lor6sAPjwcmAg&amp;sa=X&amp;oi=book_res</a>	Remove rooted sucker from the parent bush and plant in the autumn.
804	2010. Garden Guides. How to prune a Cotinus shrub. <a href="http://www.gardenguides.com/85220-prune-cotinus-shrub.html">gardenguides.com, http://www.gardenguides.com/85220-prune-cotinus-shrub.html</a>	"Pruning this shrub can be either for general shaping of its natural form, or coppicing, which is a more intensive and severe pruning approach. Coppicing is done annually each early spring and causes the plant to send up many watersprouts, or fast-growing stems."
805	2010. WRA Specialist. Personal Communication.	Unknown.