

<i>Elaeagnus umbellata</i> (Autumn olive, Silverberry)		Answer	Score
1.01	Is the species highly domesticated?	n	0
1.02	Has the species become naturalised where grown?		
1.03	Does the species have weedy races?		
2.01	Species suited to FL climates (USDA hardiness zones; 0-low, 1-intermediate, 2-high).	2	
2.02	Quality of climate match data (0-low; 1-intermediate; 2-high).	2	
2.03	Broad climate suitability (environmental versatility).	y	1
2.04	Native or naturalized with mean annual precipitation of 40-70 inches.	?	
2.05	Does the species have a history of repeated introductions outside its natural range?	y	
3.01	Naturalized beyond native range.	y	2
3.02	Garden/amenity/disturbance weed	y	2
3.03	Weed of agriculture	y	4
3.04	Environmental weed	y	4
3.05	Congeneric weed	y	2
4.01	Produces spines, thorns or burrs	y	1
4.02	Allelopathic	n	0
4.03	Parasitic	n	0
4.04	Unpalatable to grazing animals	?	
4.05	Toxic to animals	n	0
4.06	Host for recognised pests and pathogens	?	
4.07	Causes allergies or is otherwise toxic to humans.	n	0
4.08	Creates a fire hazard in natural ecosystems	?	
4.09	Is a shade tolerant plant at some stage of its life cycle	?	
4.10	Grows on infertile soils (oligotrophic, limerock, or excessively draining soils).	y	1
4.11	Climbing or smothering growth habit	n	0
4.12	Forms dense thickets	y	1
5.01	Aquatic	n	0
5.02	Grass	n	0
5.03	Nitrogen fixing woody plant	y	1
5.04	Geophyte	n	0
6.01	Evidence of substantial reproductive failure in native habitat	n	0
6.02	Produces viable seed	y	1
6.03	Hybridizes naturally		
6.04	Self-compatible or apomictic		
6.05	Requires specialist pollinators	n	0
6.06	Reproduction by vegetative propagation	n	-1
6.07	Minimum generative time (years)	3	0
7.01	Propagules likely to be dispersed unintentionally (plants growing in heavily trafficked areas)		

7.02	Propagules dispersed intentionally by people	y	1
7.03	Propagules likely to disperse as a produce contaminant	n	-1
7.04	Propagules adapted to wind dispersal	n	-1
7.05	Propagules water dispersed	n	-1
7.06	Propagules bird dispersed	y	1
7.07	Propagules dispersed by other animals (externally)	n	-1
7.08	Propagules dispersed by other animals (internally)	y	1
8.01	Prolific seed production	y	1
8.02	Evidence that a persistent propagule bank is formed (>1 yr)	?	
8.03	Well controlled by herbicides	y	-1
8.04	Tolerates, or benefits from, mutilation or cultivation	y	1
8.05	Effective natural enemies present in Florida, or east of the continental divide.		
Total Score		19	
Implemented Pacific Second Screening		No	
Risk Assessment Results		Reject	

	Reference	Source data
1.01		Cultivated, but no evidence of selection for reduced weediness.
1.02		
1.03		
2.01	<p>1. PERAL NAPPFAST Global Plant Hardiness (http://www.nappfast.org/Plant_hardiness/NAPPFAST%20Global%20zones/10-year%20climate/PLANT_HARDINESS_10YR%20lgnd.tif). 2. USDA/ARS-GRIN [Online Database]. National Germplasm Resources Laboratory, Beltsville, Maryland (http://www.ars-grin.gov/cgi-bin/npgs/html/taxon.pl?15948 [Accessed: 4/1/2011]). 3.a-b. Munger, Gregory T. 2003. <i>Elaeagnus umbellata</i> . In: Fire Effects Information System, [Online]. U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station, Fire Sciences Laboratory (Producer). Available: http://www.fs.fed.us/database/feis/ [2011, May 25]. 4. Weber, E. <i>Invasive Plant Species of the World</i> . Cambridge: CABI. 2003. Print.</p>	<p>No computer analysis was performed. 1. Global hardiness zone: (5?-)6-12(-13?). 2.a. Native to Asia-Temperate, including Afghanistan, China, Japan, Korea, Taiwan; and Asia-Tropical including Bhutan, India, Nepal, and Pakistan. 2.b. Naturalized in Canada and United States. 3.a. Occurs throughout the eastern United States, from Maine, west to Wisconsin, Iowa, Nebraska, Kansas, Arkansas, and Louisiana. It also occurs in southern and eastern Ontario and Hawaii. 3.b. In North America may be limited by cold intolerance from USDA climate zone 5 north. 4. Geographic distribution: Africa, Asia, Atlantic Islands, Australia, Europe, Indian Ocean Islands, Northern America, Pacific Islands, Southern America.</p>
2.02		No computer analysis was performed. Native range is well known; refer to 2.01 source data.
2.03	<p>1. Köppen-Geiger climate map (http://www.hydrol-earth-syst-sci.net/11/1633/2007/hess-11-1633-2007.pdf). 2. Refer to all references in question 2.01.</p>	1. Distribution in the native and cultivated ranges is widespread and occurs in at least 3 climatic groups.
2.04	1. Weber, E. <i>Invasive Plant Species of the World</i> . Cambridge: CABI. 2003. Print.	1. This fast growing shrub spreads rapidly in mesic to wet habitats and disturbed areas.

2.05	<p>1. USDA/ARS-GRIN [Online Database]. National Germplasm Resources Laboratory, Beltsville, Maryland (http://www.ars-grin.gov/cgi-bin/npgs/html/taxon.pl?15948 [Accessed: 4/1/2011]). 2.a-b. Global Invasive Species Database, 2005. <i>Elaeagnus umbellata</i> . Available from: http://www.issg.org/database/species/ecology.asp?si=19&fr=1&sts=sss [Accessed 31 March 2011]. 3. Miller, J.H. 2003. <i>Non-native Invasive Plants of Southern Forests: A Field Guide for Identification and Control</i> . Revised. Gen Tech. Rep. SRS-62. Asheville, NC: U.S. Department of Agriculture, Forest Service, Southern Research Station. 93 p. Print.</p>	<p>1. Ornamental and potential for erosion control. 2.a. <i>E. umbellata</i> was introduced to the United States for cultivation in 1830. It occurs from Maine to New Jersey and Pennsylvania (Fernald 1950, in Eckardt & Sather 1987) and west to Wisconsin, Illinois, and Missouri (Holtz 1981, Eckardt & Sather 1987). 2.b. Valued as an ornamental. 3. Introduced from China and Japan in 1830. Widely planted for wildlife habitat, strip mine reclamation, and shelterbelts. 4. Autumn-olive has been a recommended species for planting as a tall shrub component in windbreaks in the Great Plains, in part due to its wildlife food and cover value. It's promoted as a beneficial wildlife species and planted in wildlife management areas in the eastern U.S. to provide food and cover. It has been promoted for reclamation of mine spoils and other disturbed soils, such as coal mine sites. It has also been suggested for use in stabilizing eroded soils in exposed coastal areas due to its salt spray tolerance. Lastly, is used in plantations for companion planting with black walnut to enhance black walnut productivity. It is thought autumn-olive enhances black walnut growth by increasing ecosystem nitrogen pools through nitrogen fixation and by decreasing herbaceous competition.</p>
3.01	<p>1. USDA/ARS-GRIN [Online Database]. National Germplasm Resources Laboratory, Beltsville, Maryland (http://www.ars-grin.gov/cgi-bin/npgs/html/taxon.pl?15948 [Accessed: 4/1/2011]).</p>	<p>1. Naturalized in Canada and United States.</p>
3.02	<p>1.a-b. Global Invasive Species Database, 2005. <i>Elaeagnus umbellata</i> . Available from: http://www.issg.org/database/species/ecology.asp?si=19&fr=1&sts=sss [Accessed 31 March 2011].</p>	<p>1.a. It seems to be a problem only in locations where small stands or rows were planted, usually within the last 10-20 years, and have begun to spread into adjacent fields or natural areas. 1.b It apparently can become troublesome where it occurs on or next to prairies with infrequent prescribed burns because it resprouts quickly after fire damage or cutting.</p>
3.03	<p>1.a-b. Global Invasive Species Database, 2005. <i>Elaeagnus umbellata</i> . Available from: http://www.issg.org/database/species/ecology.asp?si=19&fr=1&sts=sss [Accessed 31 March 2011].</p>	<p>1.a. It seems to be a problem only in locations where small stands or rows were planted, usually within the last 10-20 years, and have begun to spread into adjacent fields or natural areas. 1.b. It apparently can become troublesome where it occurs on or next to prairies with infrequent prescribed burns because it resprouts quickly after fire damage or cutting.</p>

3.04	<p>1. USDA/ARS-GRIN [Online Database]. National Germplasm Resources Laboratory, Beltsville, Maryland (http://www.ars-grin.gov/cgi-bin/npgs/html/taxon.pl?15948 [Accessed: 4/1/2011]). 2.a-c. Global Invasive Species Database, 2005. <i>Elaeagnus umbellata</i>. Available from: http://www.issg.org/database/species/ecology.asp?si=19&fr=1&sts=sss [Accessed 31 March 2011]. 3. Munger, Gregory T. 2003. <i>Elaeagnus umbellata</i>. In: Fire Effects Information System, [Online]. U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station, Fire Sciences Laboratory (Producer). Available: http://www.fs.fed.us/database/feis/ [2011, May 26].</p>	<p>1. Declared a terrestrial noxious weed in CT, MA, NH, WV. 2.a. It is vigorous and competitive against native species. 2.b. It seems to be a problem only in locations where small stands or rows were planted, usually within the last 10-20 years, and have begun to spread into adjacent fields or natural areas. 2.c. It apparently can become troublesome where it occurs on or next to prairies with infrequent prescribed burns because it resprouts quickly after fire damage or cutting. 3. U.S. Forest Service Region 8 (Southern Region) lists autumn-olive as a CAT I weed. Autumn olive is ranked as a severe threat by both TNEPPC & KYEPPC; listed as a highly invasive species by VA Dept. of Conservation & Recreation; listed as a Cat II by VT Agency of Natural Resources & TNC; listed as a noxious weed in several WV counties; and among the top 10 exotics pest plants in GA.</p>
3.05	<p>1. Global Invasive Species Database, 2005. <i>Elaeagnus umbellata</i>. Available from: http://www.issg.org/database/species/ecology.asp?si=19&fr=1&sts=sss [Accessed 31 March 2011].</p>	<p>1. ISSG has <i>E. pungens</i> and <i>E. angustifolia</i> listed in their database. <i>E. pungens</i> reported as invasive in AL, FL, TN; <i>E. angustifolia</i> reported as invasive in at least 23 states.</p>
4.01	<p>1. Pacific Island Ecosystems at Risk (PIER). http://www.hear.org/pier/wra/pacific/dichrostachys_cinerea_htmlwra.htm. 2. Miller, J.H. 2003. <i>Non-native Invasive Plants of Southern Forests: A Field Guide for Identification and Control</i>. Revised. Gen Tech. Rep. SRS-62. Asheville, NC: U.S. Department of Agriculture, Forest Service, Southern Research Station. 93 p. Print.</p>	<p>1. Grows impenetrable, thorny thickets. 2. Twigs slender and silver scaly, spur twigs common, with some lateral twigs becoming pointed like thorns. Branches and main stems glossy olive drab with scattered thorns.</p>
4.02	<p>1. USDA, NRCS. 2011. The PLANTS Database (http://plants.usda.gov, 3 March 2011). National Plant Data Center, Baton Rouge, LA 70874-4490 USA.</p>	<p>1. Not known to be allelopathic.</p>
4.03		
4.04	<p>1. USDA, NRCS. 2011. The PLANTS Database (http://plants.usda.gov, 3 March 2011). National Plant Data Center, Baton Rouge, LA 70874-4490 USA.</p>	<p>1. Palatability to grazing animals is low.</p>
4.05	<p>1. Munger, Gregory T. 2003. <i>Elaeagnus umbellata</i>. In: <i>Fire Effects Information System</i>, [Online]. U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station, Fire Sciences Laboratory (Producer). Available: http://www.fs.fed.us/database/feis/ [2011, May 26].</p>	<p>1. Fruits are consumed by a variety of wildlife, including songbirds, northern bobwhite, ruffed grouse, mourning doves, ring-necked pheasants, wild turkeys, mallards, raccoons, skunks, opossums, and black bears, and is also browsed by white-tailed deer.</p>

4.06	<p>1. Farr, D.F., & Rossman, A.Y. Fungal Databases, Systematic Mycology and Microbiology Laboratory, ARS, USDA. Retrieved May 26, 2011, from /fungaldatabases/. 2. Glawe, D. A. (n.d.) Pacific Northwest Fungi Database. Department of Plant Pathology, Washington State University, Puyallup, WA. Retrieved May 26, 2011, from http://pnwfungi.wsu.edu/programs/aboutDatabase.asp.</p>	<p>1. USDA Fungal Database has a record of Arthur & Cummins (1933) reporting <i>E. umbellata</i> as a host of <i>Puccinia coronata</i>, a severe pathogen attacking grass species, in India. 2. Host for <i>Puccinia coronata</i> includes <i>Elaeagnus</i>.</p>
4.07	<p>1. Global Invasive Species Database, 2005. <i>Elaeagnus umbellata</i>. Available from: http://www.issg.org/database/species/ecology.asp?si=19&fr=1&sts=sss [Accessed 31 March 2011].</p>	<p>1. Kaushal and Parmar (1982) state that the seeds and flowers are said to be used as a stimulant in coughs and the expressed oil is used in pulmonary infections. The flowers are also used as an astringent and in cardiac ailments (Watt 1890, Kirtikar & Basu 1938, Kaushal and Parmar 1982). Kaushal and Parmar (1982) report that the fruits are very good to eat (very rich in protein) and they have a remarkable keeping quality.</p>
4.08	<p>1. USDA, NRCS. 2011. The PLANTS Database (http://plants.usda.gov, 3 March 2011). National Plant Data Center, Baton Rouge, LA 70874-4490 USA. 2. Global Invasive Species Database, 2005. <i>Elaeagnus umbellata</i>. Available from: http://www.issg.org/database/species/ecology.asp?si=19&fr=1&sts=sss [Accessed 31 March 2011].</p>	<p>1. Fire tolerance is low. 2. Resprouts quickly after fire damage.</p>
4.09	<p>1. USDA, NRCS. 2011. The PLANTS Database (http://plants.usda.gov, 3 March 2011). National Plant Data Center, Baton Rouge, LA 70874-4490 USA. 2. Global Invasive Species Database, 2005. <i>Elaeagnus umbellata</i>. Available from: http://www.issg.org/database/species/ecology.asp?si=19&fr=1&sts=sss [Accessed 31 March 2011]. 3. Miller, J.H. 2003. <i>Non-native Invasive Plants of Southern Forests: A Field Guide for Identification and Control</i>. Revised. Gen Tech. Rep. SRS-62. Asheville, NC: U.S. Department of Agriculture, Forest Service, Southern Research Station. 93 p. Print. 4. Munger, Gregory T. 2003. <i>Elaeagnus umbellata</i>. In: <i>Fire Effects Information System</i>, [Online]. U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station, Fire Sciences Laboratory (Producer). Available: http://www.fs.fed.us/database/feis/ [2011, May 26].</p>	<p>1. Is intolerant to shade. 2. Mature trees tolerate light shade but produce more fruits in the sun, and seedlings may be shade intolerant. 3. Shade tolerant. 4. Appears best adapted to early-successional habitats in North America. It has been called "moderately" shade tolerant, but is thought to be generally absent from areas with very low light intensity, such as under a dense forest canopy. However, it appears autumn-olive has at least some ability to establish under a forest canopy based on Ebinger and Lehnen 1981 (unable to gain access to this referred article).</p>

4.10	<p>1. Weber, E. <i>Invasive Plant Species of the World</i> . Cambridge: CABI. 2003. Print. 2. USDA, NRCS. 2011. The PLANTS Database (http://plants.usda.gov, 3 March 2011). National Plant Data Center, Baton Rouge, LA 70874-4490 USA. 3. Global Invasive Species Database, 2005. <i>Elaeagnus umbellata</i> . Available from: http://www.issg.org/database/species/ecology.asp?si=19&fr=1&sts=sss [Accessed 31 March 2011]. 4. Munger, Gregory T. 2003. <i>Elaeagnus umbellata</i> . In: <i>Fire Effects Information System</i> , [Online]. U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station, Fire Sciences Laboratory (Producer). Available: http://www.fs.fed.us/database/feis/ [2011, May 26].</p>	<p>1. Grows well in soils of low fertility. 2. Adapted to fine textured soils. 3. Grows well on a variety of soils including sandy, and does very well on infertile soils. 4. Autumn-olive grows best on deep, relatively coarse-textured soils that are moderately-well to well drained. It does less well on very dry soil and usually fails on very shallow, poorly drained, or excessively wet soil.</p>
4.11		
4.12	<p>1. Weber, E. <i>Invasive Plant Species of the World</i> . Cambridge: CABI. 2003. Print. 2. Pacific Island Ecosystems at Risk (PIER). http://www.hear.org/pier/wra/pacific/dichrostachys_cinerea_htmlwra.htm. 3. Miller, J.H. 2003. <i>Non-native Invasive Plants of Southern Forests: A Field Guide for Identification and Control</i> . Revised. Gen Tech. Rep. SRS-62. Asheville, NC: U.S. Department of Agriculture, Forest Service, Southern Research Station. 93 p. Print.</p>	<p>1. It forms dense thickets displacing native vegetation and preventing the growth and regeneration of native plants. 2. Grows rapidly into an impenetrable thorny thicket. 3. Forms dense stands.</p>
5.01		Family: <i>Elaeagnaceae</i>
5.02		Family: <i>Elaeagnaceae</i>
5.03	<p>1. Weber, E. <i>Invasive Plant Species of the World</i> . Cambridge: CABI. 2003. Print. 2. Global Invasive Species Database, 2005. <i>Elaeagnus umbellata</i> . Available from: http://www.issg.org/database/species/ecology.asp?si=19&fr=1&sts=sss [Accessed 31 March 2011]. 3. Miller, J.H. 2003. <i>Non-native Invasive Plants of Southern Forests: A Field Guide for Identification and Control</i> . Revised. Gen Tech. Rep. SRS-62. Asheville, NC: U.S. Department of Agriculture, Forest Service, Southern Research Station. 93 p. Print.</p>	<p>1. The plant is nitrogen-fixing and grows well in soils of low fertility. 2. Its roots can fix nitrogen. 3. A non-leguminous nitrogen fixer.</p>
5.04		
6.01		

6.02	1. USDA, NRCS. 2011. The PLANTS Database (http://plants.usda.gov , 3 March 2011). National Plant Data Center, Baton Rouge, LA 70874-4490 USA. 2. Munger, Gregory T. 2003. <i>Elaeagnus umbellata</i> . In: <i>Fire Effects Information System</i> , [Online]. U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station, Fire Sciences Laboratory (Producer). Available: http://www.fs.fed.us/database/feis/ [2011, May 26].	1. Propagated by seed. 2. Seed germination is enhanced by a period of cold stratification but not a prerequisite for germination.
6.03		
6.04		
6.05	1. Munger, Gregory T. 2003. <i>Elaeagnus umbellata</i> . In: <i>Fire Effects Information System</i> , [Online]. U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station, Fire Sciences Laboratory (Producer). Available: http://www.fs.fed.us/database/feis/ [2011, May 26].	1. Open-pollinated, often by insects.
6.06	1. USDA, NRCS. 2011. The PLANTS Database (http://plants.usda.gov , 3 March 2011). National Plant Data Center, Baton Rouge, LA 70874-4490 USA.	No vegetative spread rate.
6.07	1. Global Invasive Species Database, 2005. <i>Elaeagnus umbellata</i> . Available from: http://www.issg.org/database/species/ecology.asp?si=19&fr=1&sts=sss [Accessed 31 March 2011].	1. <i>Elaeagnus umbellata</i> grows rapidly, producing fruits in 3-5 years.
7.01		
7.02	1. USDA/ARS-GRIN [Online Database]. National Germplasm Resources Laboratory, Beltsville, Maryland (http://www.ars-grin.gov/cgi-bin/npgs/html/taxon.pl?15948 [Accessed: 4/1/2011]). 2.a-b. Global Invasive Species Database, 2005. <i>Elaeagnus umbellata</i> . Available from: http://www.issg.org/database/species/ecology.asp?si=19&fr=1&sts=sss [Accessed 31 March 2011].	1. Ornamental and potential for erosion control. 2.a. Roots can fix nitrogen, which fostered its use as a nurse plant in walnut orchards. 2.b. It is planted as a protective hedge around fields as well as around houses and gardens.
7.03		
7.04		
7.05		

7.06	<p>1. Weber, E. <i>Invasive Plant Species of the World</i> . Cambridge: CABI. 2003. Print. 2. Pacific Island Ecosystems at Risk (PIER). http://www.hear.org/pier/wra/pacific/dichrostachys_cinerea_htmlwra.htm. 3. Global Invasive Species Database, 2005. <i>Elaeagnus umbellata</i> . Available from: http://www.issg.org/database/species/ecology.asp?si=19&fr=1&sts=sss [Accessed 31 March 2011]. 4. Munger, Gregory T. 2003. <i>Elaeagnus umbellata</i> . In: <i>Fire Effects Information System</i> , [Online]. U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station, Fire Sciences Laboratory (Producer). Available: http://www.fs.fed.us/database/feis/ [2011, May 26].</p>	<p>1. Seeds are dispersed by birds. 2. Seeds are spread widely by birds. 3. Seeds are ingested with fruit and dispersed by birds. 4. Seeds are dispersed by frugivorous birds.</p>
7.07		
7.08	<p>1. Global Invasive Species Database, 2005. <i>Elaeagnus umbellata</i> . Available from: http://www.issg.org/database/species/ecology.asp?si=19&fr=1&sts=sss [Accessed 31 March 2011]. 2. Miller, J.H. 2003. <i>Non-native Invasive Plants of Southern Forests: A Field Guide for Identification and Control</i> . Revised. Gen Tech. Rep. SRS-62. Asheville, NC: U.S. Department of Agriculture, Forest Service, Southern Research Station. 93 p. Print. 3. Munger, Gregory T. 2003. <i>Elaeagnus umbellata</i> . In: <i>Fire Effects Information System</i> , [Online]. U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station, Fire Sciences Laboratory (Producer). Available: http://www.fs.fed.us/database/feis/ [2011, May 26].</p>	<p>1. Seeds are ingested with fruit and dispersed by mammals. 2. Spreads by animal-dispersed seeds. 3. Seeds are dispersed, to a lesser extent, by small mammals.</p>

8.01	<p>1. Weber, E. <i>Invasive Plant Species of the World</i> . Cambridge: CABI. 2003. Print. 2. USDA, NRCS. 2011. The PLANTS Database (http://plants.usda.gov, 3 March 2011). National Plant Data Center, Baton Rouge, LA 70874-4490 USA. 3. Pacific Island Ecosystems at Risk (PIER). http://www.hear.org/pier/wra/pacific/dichrostachys_cinerea_htmlwra.htm. 4. Global Invasive Species Database, 2005. <i>Elaeagnus umbellata</i> . Available from: http://www.issg.org/database/species/ecology.asp?si=19&fr=1&sts=sss [Accessed 31 March 2011]. 5. Munger, Gregory T. 2003. <i>Elaeagnus umbellata</i> . In: <i>Fire Effects Information System</i> , [Online]. U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station, Fire Sciences Laboratory (Producer). Available: http://www.fs.fed.us/database/feis/ [2011, May 26].</p>	<p>1. Fruit production is prolific. 2. Fruit/seed abundance is high. 3. A single plant can produce 200,000 seeds each year. 4. High seed production; produces a large amount of seed, each tree producing 1-3.5 kg of seeds per year and the number of seeds per tree range from 44,400-120,000. 5. Mature plants can produce about 3 pounds of seed, or about 66,000 seeds.</p>
8.02	<p>1. USDA, NRCS. 2011. The PLANTS Database (http://plants.usda.gov, 3 March 2011). National Plant Data Center, Baton Rouge, LA 70874-4490 USA.</p>	<p>1. Fruit/seed is persistent.</p>
8.03	<p>1. Weber, E. <i>Invasive Plant Species of the World</i> . Cambridge: CABI. 2003. Print. 2.a-d. Global Invasive Species Database, 2005. <i>Elaeagnus umbellata</i> . Available from: http://www.issg.org/database/species/ecology.asp?si=19&fr=1&sts=sss [Accessed 31 March 2011].</p>	<p>1. Larger individuals are cut and the cut stumps treated with glyphosate. Basal applications of triclopyr applied in early spring are also effective. 2.a. Cut the plant off at the main stem and paint glyphosate on the stump. 2.b. Foliar applications may be adequate for small patches; the recommended dilution of glyphosate in this case is a 1-2% solution. 2.c. Dormant season basal applications of triclopyr alone or in combination with 2,4-D provided excellent control at very low concentration (down to 1% triclopyr in diesel oil. 2.d. Dicamba applied with a surfactant provided 90% total kill and severely retarded the growth of surviving stems the following year.</p>
8.04	<p>1. Weber, E. <i>Invasive Plant Species of the World</i> . Cambridge: CABI. 2003. Print. 2. USDA, NRCS. 2011. The PLANTS Database (http://plants.usda.gov, 3 March 2011). National Plant Data Center, Baton Rouge, LA 70874-4490 USA. 3. Global Invasive Species Database, 2005. <i>Elaeagnus umbellata</i> . Available from: http://www.issg.org/database/species/ecology.asp?si=19&fr=1&sts=sss [Accessed 31 March 2011].</p>	<p>1. The shrub resprouts quickly after burning or cutting. 2. Resprout ability. 3. It resprouts quickly after fire damage and cutting.</p>
8.05		