

Pest Management – Invasive Plant Control

Autumn Olive – *Elaeagnus umbellata*

Conservation Practice Job Sheet

NH-595



Autumn Olive (*Elaeagnus umbellata*)



Autumn Olive, leaves

Autumn Olive

Autumn olive is native to eastern Asia and was introduced to the United States for ornamental cultivation in the 1800s. It now grows in most northeastern and upper Midwest states.

Autumn olive grows well on a variety of soils including sandy, loamy, and somewhat clayey textures with a pH range of 4.8-6.5. It does not grow as well on very wet or dry sites, but is tolerant to drought. It does well on infertile soils because its root nodules house nitrogen-fixing actinomycetes. Mature trees tolerate light shade, but produce more fruits in full sun, and seedlings may be shade intolerant.

In New England, autumn olive has escaped from cultivation and is progressively invading natural areas. It is a threat to open and semi-open areas. It has the potential of becoming one of the most troublesome invasive shrubs in the area. It exhibits prolific fruiting, rapid growth, is widely disseminated by birds, and can easily adapt to many sites. It is vigorous and competitive against native species, and resprouts after cutting. Due to its nitrogen-fixing capabilities, it has the capacity to adversely affect the nitrogen cycle of native communities. Autumn olive is just beginning to be recognized as a potentially serious problem.

Description

Autumn olive is a large deciduous shrub that can grow up to 20 feet tall. Leaves are alternately arranged, elliptic to lanceolate (shaped like a lance head), and smooth-edged. Mature leaves have a dense covering of lustrous silvery scales on the lower surface. Stems and buds also have silvery scales. Flowers are small, creamy white to yellow and tubular in shape; they grow in small clusters. The abundant fruits look like small pink berries, also with silvery scales.

Similar Natives

Autumn olive has no similar native plants, but is easily confused with Russian olive, which is a less common invader. Unlike autumn olive, Russian olive often has stiff peg-like thorns, and has silvery scales coating both sides of its mature leaves.

Control

The best method of controlling these species is to prevent them from becoming established. Plants should be removed as soon as possible if they are found newly colonizing an area. Small plants and seedlings can be hand-pulled, especially when the soil is moist. Herbicide treatment is probably the best method for eradicating larger, well-established plants,

as cutting only stimulates sprouting and leads to thicker growth.

Biological Control

No biological options are currently known.

Mechanical Control

Seedlings and sprouts can be pulled by hand when the soil is moist enough to insure removal of the root system. Root fragments may resprout if left in the ground.

Cut trees at ground level with power or manual saw. Cutting is most effective after trees have begun to flower, but before they produce seeds. Because autumn olive spreads by suckering, re-sprouts are common after cutting. Cutting is an initial control measure and success will require either herbicide application or repeated cutting.

Prescribed Burning

Burning is not a viable option by itself for autumn olive control. It stimulates growth, resulting in vigorous production of new shoots.

Chemical Control

CAUTION: ALWAYS READ THE ENTIRE HERBICIDE LABEL. HERBICIDES ARE REGULATED AND MAY ONLY BE USED UNDER SPECIFIC CONDITIONS. CONTACT YOUR STATE DEPARTMENT OF AGRICULTURE FOR USE REQUIREMENTS, RESTRICTIONS OR RECOMMENDATIONS.

Foliar treatment: Foliar applications may be adequate for small patches; glyphosate, triclopyr and dicamba have all been used with positive results. The recommended dilution of glyphosate in this case is a 1-2% solution¹. Research has shown that the best time for this application is in late August or September when the plant is actively translocating materials to the roots.

Dicamba should be applied in late June at a rate of 4 lbs/gal (2 qts/100 gal/acre) with a surfactant. This prescription provided 90% total kill and severely retarded the growth of surviving stems the following year¹.

Cut stem treatment: Cut stem treatment is accomplished by cutting the main stem of the plant and then painting the herbicide on the stump. Glyphosate is effective and commonly used. A 10-20% dilution is recommended for painting on stumps¹.

Basal treatment: Reports have demonstrated that basal applications (stem injections) in March, of triclopyr alone or in combination with 2,4-D provided excellent control of autumn olive even at very low concentrations (down to 1% triclopyr in diesel oil)¹.

¹- Kuhns, L. J. 1986. "Controlling autumn olive with herbicides." Proc. 40th Ann. Meet. N. E. Weed Sci. Soc.

Important Note

Mention of specific pesticide products in this document does not constitute an endorsement. These products are mentioned specifically in control literature used to create this document.

Disposal

There are a few general rules of thumb that will ensure proper disposal. Be sure the plant is dead before placing in a mulch or compost pile. Either dry it out in the sun, or bag it in a heavy duty black plastic bag. If you have flowers and/or seeds on the plant, put the flowers and seed heads into the bag head first so that there is minimal risk in dispersing seed.

Information and Recommendations compiled from:

- "Invasive Plant Management Guide." Stewardship Subcommittee of the Connecticut Invasive Plant Working Group. http://www.hort.uconn.edu/cipwg/art_pubs/GUIDE/guideframe.htm
- Kuhns, L. J. 1986. "Controlling autumn olive with herbicides." Proc. 40th Ann. Meet. N. E. Weed Sci. Soc.
- "Maine Invasive Plants." Maine Natural Areas Program. <http://www.umext.maine.edu/onlinepubs/htmlpubs/2525.htm>
- Rhoads, Ann F. and Timothy A. Block. 2002. "Invasive Species Fact Sheet." Morris Arboretum of the University of Pennsylvania. <http://www.paflora.org/Elaeagnus%20spp.pdf>
- The Nature Conservancy - Element Stewardship Abstract (and references therein)