

Vol. 1, No. 3. Approved 02/06/90

## VEGETATION MANAGEMENT GUIDELINE

### Autumn Olive(*Eleagnus umbellata* Thunb.)



Photos by Kenneth R. Robertson, INHS

---

## SPECIES CHARACTER

### Description

Autumn olive is a medium to large shrub, often reaching heights of 20 feet. The leaves, borne alternately on the stems, are generally oval in shape, approximately 1-3 inches (2.5-7.5 cm) long, and lack teeth. The upper surface of leaves is dark green to grayish-green in color, while the lower surface is covered with silvery white scales, a conspicuous characteristic that can be seen from a distance. The small light yellow flowers bloom in late April and May after the first leaves have appeared. Flowers and fruits, when present, are borne along twigs. The small (less than 1/4 inch) fleshy fruits range in color from pink to red and are produced in abundance each year.



### Similar Species

Autumn olive is distinguished from other shrubs in Illinois by the silvery white scales covering the lower leaf surface and by its elliptical or ovate leaves that often have a slightly wavy margin. Autumn olive resembles Russian olive (*Elaeagnus angustifolia*), another exotic shrub, in that leaves of both species appear silvery on the lower surface. However, Russian olive has narrower leaves that are lanceolate in shape. Autumn olive should be accurately identified before attempting any control

measures. If identification of the species is in doubt, the plant's identity should be confirmed by a knowledgeable individual and/or by consulting appropriate books.

### **Distribution**

Autumn olive was introduced into U.S. cultivation in 1830 from its native range in China, Japan, and Korea. In Japan, this species is common and variable, occurring in thickets and thin woods in both lowlands and uplands. The species was studied in the 1940's by the Soil Conservation Service and the strain 'Cardinal' was released in 1963 for commercial propagation. In the eastern and central United States, autumn olive has been planted primarily to provide food and cover for wildlife but also as screens and barriers along highways, to stabilize and revegetate road banks, and to reclaim mine spoil. As late as 1975 this species was described as escaping rarely from cultivation. By 1981, it had been documented as naturalized in Illinois. Autumn olive has been officially recorded from only 6 counties; it is, however, probably found in most counties now.

### **Habitat**

Autumn olive occurs in disturbed areas, successional fields, pastures, and roadsides, where it has been widely planted. It has been noted from prairies, open woodlands, and forest edges. Autumn olive rarely is encountered in dense forests or in very wet sites.

### **Life History**

Autumn olive is a non-leguminous, nitrogen-fixing woody shrub. Plants flower and develop fruits annually after reaching 3 years of age, although 2 year old plants have been known to flower. An individual plant can produce up to 8 pounds of fruit. Seed dispersal appears to be mainly by falling fruit and birds. Birds seem to be the primary vector for dispersal, although raccoons, skunks, and opossums are known to feed on the fruit. Once established, this species is highly invasive and difficult to control. Burned, mowed, or cut plants will resprout vigorously.

### **Current Status**

Currently, there are no restrictions on the sale or use of autumn olive in Illinois.

---

## **CONTROL RECOMMENDATIONS**

### **RECOMMENDED PRACTICES IN NATURAL COMMUNITIES OF HIGH QUALITY**

Young seedlings and sprouts can be handpulled in early spring when adequate ground moisture is present to allow removal of the root system along with above-ground growth. Autumn olive is easily seen in early spring because its leaves appear while most native vegetation is still dormant.

Cutting the plant off at the main stem and applying herbicide to the stump has been effective in killing root systems and preventing resprouting. Roundup herbicide (a formulation of glyphosate) has been effective in controlling autumn olive when used as a 10-20% solution and applied directly to the cut stump. Although the Roundup label specifies a higher concentration for cut-stump application (50-100%), this lower concentration has proven effective. Roundup can be applied either by spraying individual stumps with a low pressure hand-held sprayer or else by wiping each stump using a sponge applicator (sponge-type paint applicators can be used). With cut-stump treatment, herbicide is applied specifically to the target plant, reducing the possibilities of damaging nearby, desirable vegetation. Cut-stump treatment is particularly effective late in the growing season (July-September), but is also effective during the dormant season. Glyphosate is a nonselective herbicide, so care should be taken to avoid contacting nontarget species. By law, herbicides only may be applied according to label directions and by licensed herbicide applicators or operators when working on public properties.

## RECOMMENDED PRACTICES ON BUFFER AND SEVERELY DISTURBED SITES

Same as above for high-quality natural communities. In addition, the following treatments are effective. Thin-line basal bark treatments with triclopyr herbicides (tradename Garlon) have demonstrated 95% kill. Undiluted Garlon 4 (or Garlon 4 diluted 50:50 with diesel fuel) should be applied in a thin, pencil-point line around the base of the plant 6-12 inches (15-30 cm) above the ground. Application can be made with a hand-held plant sprayer and should be performed during the dormant season to minimize risk to nontarget species. A narrow band of Garlon 4 encircling the stem is needed to be effective. Great care should be exercised to avoid getting any of the mixtures on the ground near the target plant since some nontarget species may be harmed. **This method should not be used in high quality natural areas because the diesel fuel may kill vegetation around the tree.** Avoid using Triclopyr if rain is forecast for the following 1-4 days; otherwise runoff can harm nontarget species. By law, herbicides only may be applied according to label directions and by licensed herbicide applicators or operators when working on public properties.

Foliar application of dicamba herbicides (available under the tradename Banvel) and 2,4-d herbicides (available under a variety of brand names, including Crossbow) can provide total kill with little or no regrowth the following year. Banvel is mixed at the rate of 1 oz. per gallon of water plus 1/2 oz. of surfactant. The 2,4-D herbicide should be mixed according to label instructions. One hundred percent coverage of foliage should be achieved during the growing season (April-September). Therefore, this control measure is best suited to shorter plants. Although application can be done any time during the growing season, summer application (July-August) is especially effective. Banvel and 2,4-D are selective against broadleaf plants, so care must be taken to avoid contacting desirable, broadleaf vegetation. **Do not spray so heavily that herbicide drips off the target species. Foliar spray of herbicides should only be used in less sensitive areas because of problems with contacting nontarget species.** The herbicide should be applied while backing away from treated areas to avoid walking through the wet herbicide.

Although glyphosate (Roundup) is an effective foliar spray when applied during the growing season, it is not recommended because it is nonselective. Use of this herbicide as a foliar spray can result in unnecessary damage to target species.

---

## FAILED OR INEFFECTIVE PRACTICES

Repeated pruning of established plants to ground level without subsequent herbicide application is not effective for autumn olive control. Each regrowth results in a thicker stem base and denser branches. Prescribed burning has not proven effective in controlling established autumn olive.

---

## ACKNOWLEDGEMENTS

Dr. Robert M. Mohlenbrock and the Southern Illinois University Press generously permitted use of illustrations from their *Illustrated Flora of Illinois*.

---

## REFERENCES

Ebinger, J. E. and L. Lehnen. 1981. Naturalized autumn olive in Illinois. Illinois State Academy of Science Transactions 74:83-85.

Eckardt, N. 1987. Autumn olive. Element Stewardship Abstract. The Nature Conservancy, Minneapolis, MN. 5 pp.

Kuhns, L. J. 1986. Controlling autumn olive with herbicides. Proc. NE Weed Science Soc. 40:289-294.

Sternberg, G. 1982. Autumn olive in Illinois. Unpublished report, Illinois Department of Conservation, Springfield. 12 pp.

---

## **PERSONAL COMMUNICATION**

Sternberg, Guy. 1989. Division of Special Services, Illinois Department of Conservation, Springfield, Illinois.

West, Andy. 1989. Division of Natural Heritage, Illinois Department of Conservation, Springfield, Illinois.

---

### **Written for the Illinois Nature Preserves Commission by:**

Bob Szafoni  
Illinois Department of Conservation  
R.R. 2, Box 108  
Charleston, Illinois 61920

---

[VMG Main Page](#)

---