



# Control of Autumn Olive, Multiflora Rose, and Tartarian Honeysuckle

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## Problem

Autumn olive (*Elaeagnus umbellata*), multiflora rose (*Rosa multiflora*), and tartarian honeysuckle (*Lonicera tatarica*) were introduced to this country for use as conservation plantings. For that purpose, they were—and still are—very effective. They can grow into tight ground cover and do an excellent job stabilizing slopes or other erosion-prone areas. The problem is that these plants readily spread beyond the desired area. All three produce berries attractive to birds for food, and this leads to the seed being spread literally everywhere. Any of the three plants can easily “take over” idle fields in a few years. They also can become established in active pastures, particularly on steep slopes inaccessible to machinery. Autumn olive is listed as a noxious weed in 22 north central and western West Virginia counties. Multiflora rose, a noxious weed in the entire state, is considered by many farmers to be their worst weed problem.

## Identification

### *Autumn Olive*

Autumn olive is a spreading, upright, nitro-gen-fixing shrub, growing to about 15 feet. The brown or yellowish brown bark is smooth except on very old stems, where it is somewhat scaly. Twigs are spurred. There is a deep taproot.



*Autumn Olive*  
(*Elaeagnus umbellata*)

The small, alternate leaves vary in shape from narrow to moderately wide, with wavy edges. Leaf color is pale olive-green with a silvery cast; the latter is especially typical of the underside. Flowers are small, trumpet-shaped, pale yellow, and abundantly scattered in clusters along the twigs. The fruits contain one soft, ridged pit. They vary from dull to bright red, minutely speckled. They usually mature in August or September. Annual fruit production starts at about five years and ordinarily is very heavy.

### *Multiflora Rose*

Multiflora rose is a spreading shrub reaching a height of 10 feet or more. It has many large, drooping limbs or canes that occasionally climb trees. Most plants have strong thorns, but some are thornless. Usually nine oblong leaves occur on the main leaf stem. They are 1/2-inch to 1-1/2 inches long and finely toothed. Abundant small, white flowers develop in clusters. The pea-size fruit is red or reddish orange. Multiflora rose spreads aggressively on bare or sparsely vegetated soils, such as roadsides, burned areas, or overgrazed pastures, but is less likely to germinate and survive in heavy sod of tall grass or weeds.



*Multiflora Rose*  
(*Rosa multiflora*)

### *Tartarian Honeysuckle*

Tartarian Honeysuckle, a deciduous hardwood shrub, is of medium height (8 to 15 feet). It is an erect, multi-stemmed plant, with slightly drooping branches. Foliage and branching are dense. The growth rate is about 1 foot per year, and normally it does not bear fruit until the fourth or fifth year. Leaves are simple, smooth, and oval-shaped with pointed tips; they are arranged opposite on the limbs. The flowers are white to pink. The fruit matures in mid-summer.



*Tartarian Honeysuckle*  
(*Lonicera tatarica*)

### Uses

#### *Autumn Olive*

Autumn olive produces fruits eaten by four species of upland game birds, two migratory game birds, twenty nongame birds, and four mammals. It is browsed by deer and barked by cottontail rabbits and meadow mice. It is a good nesting and protective cover plant. Autumn olive is useful in stabilizing strip mine spoil; screening unsightly areas; hedging fields, ponds, and other tracts; bordering woods; and creating windbreaks. It is an attractive ornamental, having fragrant bloom and edible but astringent red fruits. It was introduced to the United States from eastern Asia.

#### *Multiflora Rose*

Multiflora rose, an ornamental shrub, is used for hedges, screens, living fences, wildlife food and cover, soil erosion control, and impact buffers in highway medians. It provides excellent nesting and protective cover for bobwhites, ruffed grouse, ring-necked pheasants, turkeys, and 14 nongame birds. Canes, foliage, and twigs are eaten by cottontail rabbits and deer. Rootstocks are used in grafting ornamental roses. It is native to Japan and China.

#### *Tartarian Honeysuckle*

Tartarian honeysuckle an ornamental shrub useful for borders, hedges, and screens. The fruit is eaten by at least 17 species of songbirds. It is not readily

browsed by livestock, deer, or rabbits. It is very attractive, especially when flowering and fruiting. Having a rather graceful overall form, it adapts well for landscaping purposes. It was introduced into the United States from Russia.

### Control

The best defense against these plants is a well managed pasture. Timely and appropriate application of lime and fertilizer, pasture seeding to improve vegetative cover, and proper grazing techniques will reduce the amount of undesirable plants in the field. Proper grazing techniques include time of grazing, intensity of grazing, and in some cases, annual clipping of pasture.

Control measures should give at least a 75-percent minimum kill to be effective. The effect of any control measure will be short-lived; timely repeat applications are as important as the initial treatment for effective control. Combinations of methods will be most effective and usually more economical.

There are three general types of control: mechanical, biological, and chemical. Guidelines for using each are described below.

#### *Mechanical*

Selection of equipment is determined by the size of the brush and area covered. Mowers, brush-hogs, dozers, blades, chain saws, and weed eaters are the typical pieces of equipment used. Mechanical control involves grubbing (pulling or removing plant) and/or defoliation (removal of all leaves). Grubbing is effective only when all roots are removed or when additional plants growing from the severed roots are killed. This control works best for scattered infestation. For severe infestation, grubbing with a bulldozer is the best option.

Repeated defoliation will kill most plants by depleting the energy reserves in the roots. Regardless of whether you use mechanical or animal control, the highest plant mortality occurs with three to six mowings or leaf removals per season for two to three consecutive seasons. Frequent mowing generally is not practical on farms because of either the time required or the cost.

If a single mowing is all that can be accomplished in a year, the best time to cut is July to early August. Early spring is the second best time. Cutting annually at both times is desirable, especially for severe infestations. If sprouting occurs, mowing followed by chemical treatment of the stump will give a more effective control.

## Biological

Biological control is the use of animals to control brush. Goats and sheep are two examples of livestock that will eat brush. In fact, goats often prefer brush. Mixed classes of livestock (sheep and cattle; goats and cattle, etc.) may be more effective overall due to the preference of each species for certain forages. A strong boundary fence is essential when using different species of livestock.

Use of goats and sheep must be part of a plan for pasture management and utilization. Some important aspects of pasture management are (1) good fences, (2) rotating pastures, (3) no grazing before grasses are 3 to 6 inches tall, and (4) soil fertility management based on soil test recommendations. Grass will increase as the amount of brush decreases, but pastures will have to be carefully managed to control and minimize soil erosion during grazing.

Unlike sheep or cattle, goats will defoliate and debark bushes, saplings, and small trees. Thorny vegetation does not deter them. By standing on their hind legs, goats defoliate higher up on many plants than sheep do. Goats will generally defoliate multiflora rose stems to a height of 5 feet. Goats outperformed sheep in a comparative study at WVU. Sheep required three seasons to accomplish the same reduction in brush cover that goats accomplished in one season.

Spring and early summer are critical times for goat and sheep control of brush. Eight to 10 mature goats or sheep per acre may be required early in the season, but this stocking rate may be reduced later when pasture growth slows. One must consider grazing management and soil fertility when looking at stocking rates. Although goats can clear brush from a pasture in one season, actual plant kill of brush requires continued grazing management for several seasons.

The key to control is repeated heavy defoliation in spring and early summer without overgrazing the grasses and legumes. Thus a rotation system works best. Using a mixture of goats, sheep, and cattle will provide the most effective clearing and subsequent plant kill of multiflora rose in pastures. More goats are suggested during the first season; their number can be reduced after two or three seasons.

Autumn olive and multiflora rose are readily eaten by goats and sheep. Livestock does not readily eat tartarian honeysuckle, but goats may browse it when plant is young and small.

## Biological (*Multiflora Rose Only*)

Rose rosette disease (RRD) is a virus transmitted by a mite to the multiflora rose plant. Discovered in the Midwest, it has spread slowly eastward. It arrived in West Virginia between 1988 and 1990.

### Some of RRD's symptoms are:

1. red mosaic patterns on the leaves;
2. later witches' brooming, which is the growth of many lateral shoots; and
3. additional lateral shoots and thick clusters of reddish green leaves (smaller than normal leaves) the following spring. These clusters protect the mites during the winter.

RRD spreads when the mites move from plant to plant. They invade the root system and then move to the canes. The entire plant and roots die within two years after being infected. Ornamental roses are susceptible but the symptoms are not as severe. RRD is not a permanent control of multiflora rose, but it can be devastating to heavily overgrown areas and may eventually eliminate over 90 percent of the multiflora roses in dense stands. Other measures (chemical, biological, mechanical, and management) must be used to control new plants.

## Chemical

Chemical control should be used only as part of a total control plan that includes some of the other techniques and management practices mentioned. There is no chemical that, by itself, solves the problem. **The information in this section is provided to help you make decisions about the control programs for the three species listed. It is not intended to replace the pesticide label. Always read the pesticide label before using any chemical and follow the safety precautions listed for each chemical.**

## Treatment Options

Following are the six basic methods of applying herbicides to the three species:

**1. Basal Bark Treatment**—This treatment is often more consistent than foliar treatment. The bark of the plant is treated from the ground up to about 18 inches. This can be done anytime, but is most effective in late winter to early spring. A small amount of solution is required, but treatment can be somewhat costly. The biggest problem is trying to make the application without getting torn apart by large thorns.

**2. Broadcast Soil Application**—Ease of application is the major advantage as a person can stand a safe distance from the rose and toss the pellets into the crown. Kill time with this treatment can be long—one to three years. Potential to harm nontarget plants is much greater because of down slope movement. It is relatively expensive.

**3. Cut Stump or Crown Treatment**—This treatment is done to avoid regrowth. It is very effective when applied promptly after cutting, but it can be expensive when treating many stumps or crowns.

**4. Dormant Stem Treatment**—This treatment is often more consistent than foliar treatment. This is done in late winter or early spring, when farmers are not tied up with other field work and there is little risk to nontarget plants. A small amount of solution is required, but treatment can be somewhat costly. Again, the thorns are the biggest problem.

**5. Foliar Application**—Although this treatment is used often, timing of application can have a great impact on effectiveness. Plants are most susceptible in early summer when most farmers are busy with field crops. Thus, application is often delayed until later in the summer when roses have hardened off. However, fall applications can also be effective. Brush over 8 feet tall is difficult to treat efficiently and may be better controlled by basal treatment or mechanical control. This probably is the least costly of all treatments.

**6. Spot Concentrate Treatments**—This direct application to the soil is done during the dormant season. It may be a little easier to make spot concentrate treatments than basal bark or dormant stem treatments, since it is often easier to get to a spot of soil close to the crown than to treat the lower parts of the canes. Treating a pasture with heavy infestation can use up a lot of herbicide quickly. It is more expensive than basal bark applications.

For specific chemical information, refer to the accompanying fact sheet, “Control of Autumn Olive, Multiflora Rose, and Tartarian Honeysuckle—Chemical Information.”

## Follow-up Control

A successful control program requires some kind of retreatment—biological, mechanical, or chemical—every year. Unless the landowner has a long-range plan, reinfestation in two or three years will erase any success achieved in one year.

## References

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