

# Forest Pests

## Invasive Plants and Insects of Maryland

Invasive plants and insects can be problematic for forest landowners. From vines that take over disturbed areas, forest edges, and tree canopies to insects that defoliate and girdle trees, these pests not only decimate the natural ecosystem, they are difficult to control and can be expensive to eradicate. This informational sheet discusses the shrub commonly known as multiflora rose.

### **Multiflora Rose (*Rosa multiflora* (Thunb.))**



James H. Miller, USDA Forest Service, Bugwood.org

#### **DESCRIPTION**

Multiflora rose is a thorny shrub from the Rose (*Rosaceae*) family. It has long, stout, arching stems that climb over native vegetation. The leaves are pinnately compound and finely serrated with 5-9 leaflets. In the early summer, white or pinkish white flowers occur. Multiflora rose is a prolific seeder. One average-sized shrub is capable of

producing between 500,000 and 1,000,000 seeds. The seeds mature between September and October, and remain on the shrub through winter. In the spring, they fall off or birds and other animals carry away the seeds. Once on the ground, seeds can stay in the soil and germinate for up to 20 years.

## ORIGIN & SPREAD

Multiflora rose is found all over the U.S., except for the Rocky Mountains and desert areas. It was introduced into the U.S. in 1886 from Eastern Asia, as rootstock. In the 1930's it was advertised as a "living fence" and forage crop. More recently, it has been planted in highway medians to aid as crash barriers and lower glare from opposing headlights.



*Ted Bodner, Southern Weed Science Society, Bugwood.org*

Even though multiflora rose is a shrub, it can spread quickly through open areas, such as fields, forest edges, roadsides, and right-of-ways. Multiflora rose spreads by seed and stem sprouts. As the stems become long and heavy, they fall over and come in contact with ground.

The stem will then sprout roots where it comes in contact with the ground and begin to produce new stems. As the new stems spread, they overlap and create an impenetrable thicket that can blanket and kill native vegetation. By changing the natural ecosystem, the food source and habitat for wildlife is altered. Early detection of multiflora rose is important so that control measures can be put into place before thickets are formed.

## CONTROL OPTIONS

### *Hand Control*

Once established, control of multiflora rose is a long-term intensive process. There are manual, mechanical, and chemical methods of addressing infestations, and usually some combination of the three is most effective. If detected when the shrub is small and young, hand pulling and grubbing the roots can be effective. It is important that all plant matter pulled up be bagged and disposed of to discourage re-establishment. It is



*James H. Miller, USDA Forest Service, Bugwood.org*

very difficult to get all of the roots. Remaining roots can continue to resprout throughout the season and repeated pulling and grubbing will eventually exhaust the stored energy in the roots and the shrub will die. For smaller, older infestations, repeated mowing or grazing are common and effective. Mowing an area several times throughout the spring and summer for about 3-4 years will kill most of the shrubs and control the spread.

Prolonged goat grazing is another option because goats do not have an aversion to the thorns.

### ***Equipment & Herbicide Control***

Larger infestations will usually require the use of herbicides or, in some cases, heavy equipment. Since multiflora rose creates dense thickets, equipment like bull dozers, skidsteers, or brush hogs can be used to pull up, push over, or cut the stems. Re-establishment can occur from the cut stems sprouting, seed germination, or any missed stem pieces left in the dirt. If the equipment is not completely cleaned on site, spread of the shrub can occur when the equipment is transported.



*Randy Westbrook, U.S. Geological Survey, Bugwood.org*

Multiflora rose is most commonly controlled with herbicide. As with all invasive plants, control methods are currently being researched and documented. Table 1 shows some of suggested uses of herbicides as found in Miller, Manning, and Enloe (2010) and Swearingen et al (2010). The most commonly used herbicides for controlling multiflora rose include glyphosate (e.g. Accord<sup>®</sup> XRT), triclopyr (e.g. Garlon<sup>®</sup> 4), and imazapyr (e.g. Arsenal<sup>®</sup> AC). The following methods are some of the most common ways of applying herbicide to the shrub.

### **Foliar Spray Method**

This method is common for very large infestations where there are no other desirable species. Generally, an herbicide solution is sprayed on the foliage just enough to wet it, not drip. The herbicide is absorbed through the leaves and is carried to the root system.

### **Cut Stem Method**

Simply cut the shrub at ground level and apply the herbicide directly to the stem cross-section immediately after cutting. This is generally done with a paint brush or plastic spray bottle. Once applied, the herbicide is absorbed throughout the root system. This method is preferred when the infestation is surrounded by other desirable species.

### **Basal Spray**

Sometimes applying herbicide directly to the stem is effective. Basal sprays are herbicides mixed with oil and a penetrant that is applied to the lower 12 – 20 inches of the stem. Always read the herbicide label to ensure that the correct oil and penetrant are used. Some herbicide products, such as Pathfinder<sup>®</sup> II, are already mixed and are ready to be applied.

### **SUMMARY**

When dealing with multiflora rose, it is important to remember that these applications will not completely control the infestation on the first attempt. Several attempts may be needed over several years. Seeds remain viable in the soil for several years and pieces of buried stem or roots may take hold and begin to grow again.

**Table 1. Herbicide Suggestions for Controlling Multiflora Rose Infestations.**

<b>Application Method</b>	<b>Active Ingredient</b>	<b>Brand Name</b>	<b>Percent Solution</b>	<b>Time of Year</b>
Foliar Spray	Metsulfuron	Escort <sup>®</sup> XP	1 oz per acre	April to June
Foliar Spray	Triclopyr	Garlon <sup>®</sup> 4	2% in water, and surfactant	July to October
Foliar Spray	Glyphosate	Accord <sup>®</sup> XRT	4% in water, and surfactant	July to October
Foliar Spray	Imazapyr	Arsenal <sup>®</sup> AC	1% in water and surfactant	August to October
Cut Stem (larger stems)	Triclopyr	Garlon <sup>®</sup> 4	25% in water and surfactant	April to October
Cut Stem	Triclopyr	Brush-B-Gone <sup>®</sup>	Undiluted	Year-Round
Cut Stem	Triclopyr	Brush Killer <sup>®</sup>	Undiluted	Year-Round
Cut Stem	Triclopyr	Vine X <sup>®</sup>	Undiluted	Year-Round
Cut Stem (larger stems)	Imazapyr	Arsenal <sup>®</sup> AC	10% in water and surfactant	April to October
Cut Stem (larger stems)	Glyphosate	Accord <sup>®</sup> XRT	20% in water and surfactant	April to October
Basal Spray (smaller stems)	Triclopyr	Garlon <sup>®</sup> 4	20-25% in a basal oil product	January to February; May to October
Basal Spray (smaller stems)	Triclopyr	Pathfinder <sup>®</sup> II	Undiluted	January to February; May to October

Use pesticides wisely. The information in this sheet is intended to illustrate methods that are currently being practiced and does not endorse or promote any of the herbicide products listed. Please be sure to read herbicide labels, even if you have experience with the herbicide, as labels are updated frequently. All information in this sheet is based on the information of the herbicide labels at the time of printing. Please contact the Maryland Department of Agriculture (MDA) if you have any questions about pesticides. The MDA website ([www.mda.md.state.us/plants-pests](http://www.mda.md.state.us/plants-pests)) contains a searchable pesticide database where you can search for pesticides, applicators, dealers, and businesses.

#### **REFERENCES**

- Miller, James H.; Manning, Steven T.; Enloe, Stephen F. 2010. A management guide for invasive plants in southern forests. Gen. Tech. Rep. SRS-131. Asheville, NC: U.S. Department of Agriculture Forest Service, Southern Research Station. 120 p.
- Swearingen, J., B. Slattery, K. Reshetiloff, and S. Zwicker. 2010. Plant Invaders of Mid-Atlantic Natural Areas, 4<sup>th</sup> ed. National Park Service and U.S. Fish and Wildlife Service. Washington, D.C. 168pp.