INVASIVE SPECIES FACT SHEET

Multiflora Rose (Rosa multiflora Thunb. ex Murr.)
Description, Distribution, and Management

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Currently, an effort is being made by Mississippi State University and the United States Geological Survey to determine the distribution of Multiflora rose in the Mid-South. This information, which is being maintained in an online database by Mississippi State University (www.gri.msstate.edu) is very important in tracking and monitoring movement and developing appropriate strategies for addressing the plant. Please send reports of suspected Multiflora rose populations to: Victor Maddox, GeosResources Institute, Box 9555, Mississippi State, MS 37962-9552, or submit information via the online form at www.gri.msstate.edu. Questions can be submitted at the online website or to Victor Maddox at 662-325-2313, E-mail: vmaddox@gri.msstate.edu or to John Madsen at Ph. 662-325-2428, E-mail: jmadsen@gri.msstate.edu.

INTRODUCTION

Multiflora rose or Japanese rose (Rosa multiflora Thunb. ex Murr.) [Syn. Rosa cathayensis (Rehd. & Wilson) Bailey] is a shrub native to Japan and Korea. It was introduced into cultivation in 1868 and escaped. It has been used for ‘living fence’ and wildlife habitat. It is considered noxious in Alabama, Iowa, Kentucky, Missouri, Pennsylvania, and West Virginia; it is banned in Connecticut and prohibited in Massachusetts and New Hampshire. A permit is required in Indiana and it is regulated as a non-native plant species in South Dakota and a nuisance weed in Wisconsin. It can be problematic in all MidSouth states, especially in pastures. The presence of prickles on stems and leaves are most likely a deterrent for grazing livestock. It is still used as a rootstock for certain cultivated roses and apparently resistant to certain diseases such as black spot. However, it is a host to some viral diseases which can be vectored to cultivated roses.

HOW YOU CAN HELP

Table 1. Chemical control tactics for weedy roses.

<table>
<thead>
<tr>
<th>Herbicide*</th>
<th>Method</th>
<th>Rate</th>
<th>Method</th>
<th>Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arsenal (imazapyr)</td>
<td>Low volume soi</td>
<td>2 to 6 pt/A</td>
<td>Low volume</td>
<td>1% solution</td>
</tr>
<tr>
<td>Banvel (dicamba)</td>
<td>Soil treatment when plants are dormant</td>
<td>2.25 oz within 6 to 8 inches of crown</td>
<td>Foliar spray</td>
<td>4 pt/A</td>
</tr>
<tr>
<td>CimarronMax (metsulfuron + dicamba+2,4-D)</td>
<td>Low volume to plants 3 ft tall</td>
<td>0.5 oz part A+ 1 qt part B/A</td>
<td>Foliar spray</td>
<td>6 pt/A</td>
</tr>
<tr>
<td>Escort/Cimarron (metsulfuron)</td>
<td>Low volume</td>
<td>1 to 3 oz/A</td>
<td>Low volume</td>
<td>1 oz per 100 gallons spray</td>
</tr>
<tr>
<td>Garlon/Remedy (triclopyr)</td>
<td>Low volume</td>
<td>4 pints/A</td>
<td>Basal spray or cut stem</td>
<td>30% solution in oil</td>
</tr>
<tr>
<td>Grazon P+D/Tordon 101 (picrocarb+2,4-D)</td>
<td>Foliar spray to plants at least 3 ft tall</td>
<td>1 gal/A</td>
<td>Low volume</td>
<td>2% solution</td>
</tr>
<tr>
<td>OneStep (imazapyr+glyphosate)</td>
<td>Low volume</td>
<td>5 to 16 pints/ A</td>
<td>Low volume</td>
<td>5 to 10% solution</td>
</tr>
<tr>
<td>Pasturegard (triclopyr+fluoroxypr)</td>
<td>Low volume</td>
<td>2% solution</td>
<td>Basal spray or cut stem</td>
<td>50% solution with oil carrier</td>
</tr>
<tr>
<td>Surmont (picrocarb + fluroxypyr)</td>
<td>Low volume</td>
<td>3 qt/A</td>
<td>Spot treatment</td>
<td>1.5% solution</td>
</tr>
<tr>
<td>Tordon (picrocarb)</td>
<td>Low volume</td>
<td>2 qt/A</td>
<td>Basal spray</td>
<td>10% solution</td>
</tr>
<tr>
<td>Velpar (hexazinone)</td>
<td>Low volume broadcast</td>
<td>2 to 4 gal/A</td>
<td>Spot treatment</td>
<td>2-4 ml per 3 feet of canopy width</td>
</tr>
<tr>
<td>Weedmaster (dicamba+2,4-D)</td>
<td>Low volume, foliar spray</td>
<td>2.5%+10% diesel fuel</td>
<td>Basal spray</td>
<td>2.5% + 15% diesel fuel</td>
</tr>
</tbody>
</table>

Fig. 1. Multiflora rose (Rosa multiflora Thunb. ex Murr.) in bloom on a roadside in Mississippi with other non-native and native vegetation. Photo by Victor Maddox.

Fig. 2. Multiflora rose (Rosa multiflora Thunb. ex Murr.) plant showing odd-pinnate leaves. Photo by Victor Maddox, GRI.

DESCRIPTION

Multiflora rose is an erect, arching, deciduous shrub (Figure 1). Stems and leaves have short, recurved prickles, except in the cultivar ‘Inermis’ which lacks prickles. These shrubs may reach 15 feet high by 15 feet wide, but are generally much smaller. Leaves are alternate and odd-pinnate with 7 to 9 leaflets (Figure 2). Leaflets tend to be hairless above but hairy beneath. Each leaflet is obovate to elliptic and 0.5 to 2 inches long by 0.5 to just over 1 inch wide. Margins are generally serrated.

Flowers are clustered, typically in a panicle (Figure 3), and produced in spring from May to June and then sparingly from September to October. The five sepals may be hairy or hairless, lanceolate, and 1.5 to 2.5 inches long. The five petals are typically white (pink in Rosa multiflora var. cathayensis and R. multiflora ‘Platyphylla’); 0.4 to 0.6 inches long (Figure 4). The hypanthium, sometimes called the ‘fruit’ or ‘hip’, is green initially, but red when mature; ellipsoid to ovoid in shape, and 0.2 to 0.3 inches long. The hips occur in clusters. Inside the hips are approximately 7 achenes (which are the true fruits that contain a seed), each about 0.1 inches long with dense hairs.

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**DIFFERENCES FROM OTHER ROSES**

The Genus Rosa belongs to the Rose (Rosaceae) Family. A few rose species are native to the MidSouth, but some are introduced. Native rose species, like Rosa carolina L., produce pink flowers. By comparison, most non-native, escaped roses produce white flowers. Four of the more common non-native, escaped roses include Cherokee rose (*Rosa laevigata* Michx.), Macartney Rose (*Rosa bracteata* Wendland), memorial rose (*Rosa wichuraiana* Crepin), and multiflora rose.

These four species can be distinguished using one or more characteristics. Some vegetative differences exist between the species. Cherokee typically has three leaflets (Figure 5), unlike multiflora rose (Figure 2). Leaflets on Macartney rose (Figure 5) tend to be smaller and more rounded compared to multiflora rose (Figure 2). Since the leaflets on memorial rose are similar to multiflora rose (Figure 2, 5), other characteristics are generally necessary to differentiate the two species. Cherokee and Macartney roses produce individual white five-petaled flowers, while memorial and multiflora roses both produce flower clusters (Figure 3). Memorial rose is pinkish and typically double petaled (many petals) while the typical multiflora rose is white and single petaled (five petals) (Figure 4). However, some cultivated multiflora rose variants are similar to the memorial rose in flower. *Rosa multiflora* var. cathayensis Reyd. & Wils. produces pink, single petaled flowers, while the cultivar ‘Platyphylla’ is double petaled pink. Despite these floral similarities, these two can be distinguished by form since multiflora rose is an upright, arching shrub and the memorial rose is trailing or produces a vine. *Rosa multiflora* ‘Inermis’ lacks prickles. These variants of multiflora rose are far less common than the typical escaped form. Although Forma watsoniana [*Rosa multiflora Thunb. ex Murr. f. watsoniana* (Crep.] Matsum) exists, it probably does not occur in the southeastern United States. In fruit, multiflora rose has smooth fruit (hips) turning red while Cherokee rose has prickly, yellow fruit and Macartney rose has pubescent (short soft hairs), brown fruit (Figure 6). Fruit are generally not seen in memorial roses.

**HABITAT AND DISTRIBUTION**

Multiflora rose is a problem in pastures, fence rows, prairies, forest and road-side margins, and open woodlands (Figure 1). It can form dense thickets, replacing the surrounding native vegetation. Although these thickets may provide habitat for certain wildlife, they are a difficult barrier for human and livestock activity.

Multiflora rose is widespread in the United States, but apparently has not escaped in the Western Plains and Rocky Mountains (Figure 7). Since it has been used as a rootstock for cultivated roses, it is possible that it has been planted in most, if not all, western states as rootstock. It occurs along the west coast and states from Minnesota to New Mexico east. In the right habitat it can be quite common in some eastern states. Individual plants may produce up to 500,000 seeds (or achenes) per year. Most seedlings emerge near the parent plant. However, many species of birds and mammals feed on the hips, thus widely dispersing seeds. Despite this dispersal mechanism, wildlife food value is considered low to minor. Stems that come in contact with the soil can root. The impact of multiflora rootstock on its spread in the United States is not clear. Its use for ornament, wildlife, and hedges has most likely lead to invasions in certain areas of the United States.

**CONTROL METHODS**

There are several chemical control options for multiflora and other weedy roses (Table 1). Most are low volume foliar applications, but basal spray, soil, or cut stem applications options are also available. All herbicide treatments should be applied when conditions are favorable for plant growth. For best results, shoots should not be treated within 12 months before or after mowing or burning. Foliar treatments should be applied after leaves have fully expanded, but before new growth has completely hardened.

Roses are generally shallow rooted and can be mechanically uprooted. Precaution should be taken to avoid prickles during handling and mechanized equipment required for large plant contact may be safer when working with large plants. Although multiflora rose is susceptible to certain diseases, no widespread use of biological controls is practiced for its control or the control of other weedy roses.

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*Fig. 3. Multiflora rose plants have white flowers in clusters. Photo by Victor Maddox, GRI.*

*Fig. 4. Multiflora rose flowers in a cluster with five white petals. Photo by Victor Maddox, GRI.*

*Fig. 5. Memorial rose (*Rosa wichuraiana* Crepin) (Left), Cherokee rose (*Rosa laevigata* Michx.) (Center), and Macartney rose (*Rosa bracteata* Wendland) (Right) leaves for comparison with multiflora rose (*Rosa multiflora* Thunb. ex Murr.) leaves (see Figure 2). Photo by Victor Maddox, GRI.*

*Fig. 6. Multiflora rose (*Rosa multiflora* Thunb. ex Murr.), left; Cherokee rose (*Rosa laevigata* Michx.), center; and Macartney rose (*Rosa bracteata* Wendland), right, fruits or hips for comparison. Photo by Victor Maddox, GRI.*

*Fig. 7. Current distribution of multiflora rose by state in the contiguous United States based upon The PLANTS Database (USDA, NRCS, 2007, http://plants.usda.gov, 6 August 2007). Map by Victor Maddox, GRI, using ArcGIS 9 Software.*