

Invasive Plants in Pennsylvania

Japanese and European Barberry

Berberis thunbergii and *B. vulgaris*



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Background:

Japanese barberry was introduced into the United States as an ornamental plant in 1875. It was promoted as a substitute for European barberry, the latter which was found to be a host for the black stem grain rust. European barberry was originally planted by settlers for hedge-rows, dye and jam-making. Japanese barberry is still widely planted for landscaping and hedges.

Range:

Japanese and European barberry, native to Japan and Europe respectively, can now be found throughout the northern half of the U.S., particularly the Northeast.

Description:

Both species are dense, spiny shrubs with oval leaves, which are serrate in European barberry and often red-tinged in Japanese barberry. The spines of European barberry are three-pronged. In mid-spring to early summer, drooping clusters of pale yellow flowers develop, turning into bright red berries.



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Habitat:

Barberry is shade tolerant, drought resistant and adaptable to a variety of wooded habitats, wetlands and disturbed areas. Japanese barberry is a more pressing problem than its European relative.

Biology and Spread:

Barberry produces a large number of seeds that have a high germination rate. Seeds are dispersed by birds and small mammals, which feed on the berries. Barberry can spread vegetatively by rooting from branches touching the ground.

Ecological Threat:

Barberry forms dense stands in natural habitats including forests, open woodlands, wetlands and meadows. Once established, it displaces native plants and reduces wildlife habitat and forage, increasing pressure on natives by white-tailed deer. It has been found to alter the pH and biological activity of soil. Barberry is also a human health hazard, not only because it has sharp spines, but also because it acts as a nursery for deer ticks, which can transmit Lyme disease.



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How to Control this Species:

Physical

Barberry is easy to identify in spring because it is one of the first shrubs to leaf out.

Using thick gloves, small plants can be pulled by hand, while larger plants should be dug up. Be sure to remove the entire root system and to bag and dispose of any plant material, including fallen fruits.

Mowing or cutting is not advisable except to make removal easier.

This plant is sensitive to fire; prescribed burns and weed torches are good options.

Look-A-Likes:

American barberry (*Berberis canadensis*), an uncommon plant of open hillside slopes thought to be extirpated from Pennsylvania, could be mistaken for an invasive barberry.



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Chemical

Systemic herbicides, such as glyphosate and triclopyr, are effective in managing barberry.

Herbicide can be applied as a basal bark or cut stump application. Late summer during fruiting may be the best time to apply herbicide, but early spring applications may avoid non-target impacts.

Large thickets of barberry can be controlled with foliar spray applications. Triclopyr only targets broadleaf species, but glyphosate is non-selective.

Native Alternatives:

Many attractive native shrubs are available for purchase:



Julie Makin
www.wildflower.org



Sally & Andy Wasowski
www.wildflower.org



James H. Miller & Ted Bodner, SWSS
www.forestryimages.org

References:

Global Invasive Species Database: <http://www.issg.org/database/species/ecology.asp?si=592&fr=1&sts=>

Wisconsin Department of Natural Resources:
<http://dnr.wi.gov/invasives/fact/barberry.htm>

For More Information:

DCNR Invasive Species Site: <http://www.dcnr.state.pa.us/conservation/science/invasivespecies/index.htm>

DCNR Invasive Exotic Plant Tutorial for Natural Lands Managers:
http://www.dcnr.state.pa.us/forestry/invasivetutorial/japanese_euro_barberry.htm