



Michigan Invasive Plant Council

Michigan Plant Invasiveness Assessment System (MPIAS June 2008)

Berberis thunbergii, Japanese Barberry

Summary and Recommendations for Michigan: *Berberis thunbergii*, Japanese barberry is a green leaved dense rounded shrub approximately 3-4' high by 6' wide that has been used commonly in the past in ornamental landscapes, as well as for wildlife conservation and erosion control. Invading plants are known to form thick stands that displace a variety of native herbaceous and shrub species. Some populations clearly originated from old hedgerows, in the vicinity of former homesteads, or near inhabited areas adjacent to the forests. Other infestations occurred in areas distant from marked trails and distant from areas of obvious current or former disturbance. The plant regenerates primarily by seed that is dispersed by birds. A correlation of seedling density with local stem density suggests that most berries simply drop to the ground, and may be dispersed slightly by gravity. Vegetative spread is through branches touching the ground that can root to form new plants and root fragments remaining in the soil that can sprout to form new plants.

Individual Japanese barberry shrubs can produce huge numbers of bright red fruits under a full range of light and soil conditions. However, fruit production was observed to be extremely variable, both among shoots within an individual and among individuals within a population. Trials of 18 cultivars or hybrids of Japanese barberry were conducted at Longwood Gardens in Pennsylvania to determine relative fruit production and germination potential. Some cultivars produced on average no more than 1 fruit per 2 inches of stem length, in contrast to the most prolific seed producers in the trial that produced more than 3 fruits per stem inch. In a separate study, *B. t.* var. *atropurpurea* and straight *B. thunbergii* produced on average of 3,000 and 1,135 seeds per plant respectively compared to 'Aurea' and 'Crimson Pygmy' that respectively produced 70 and 90 seeds per plant. Studies in the greenhouse and on invaded sites in southern Maine suggest that Japanese barberry does not form a large or persistent soil seed bank.

Invasiveness in Michigan: *Berberis thunbergii*, Japanese barberry's reproductive ability and potential invasiveness are considered high due to seed reproduction and dispersal. Its invasiveness rank is considered high in natural and constructed habitat systems and medium in the other systems. Regional importance is high in natural systems and constructed habitats in the Southern Lower Peninsula and medium in the other systems in the Upper Peninsula and Lower Peninsula ecological regions. Certain cultivars of *Berberis thunbergii* can be used responsibly, see Responsible Use below.

Value in Michigan: Recognized value is found in horticulture production, managed landscape systems, erosion control and wildlife habitat. Although it has recognized value in these areas the green leaved *B. thunbergii* is seldom used.

Responsible Use: Due to its ornamental interest, cultivars of barberry are still widely propagated and sold by nurseries for landscaping purposes in many parts of the United States. Numerous

cultivars have been selected for different forms and foliage colors. They are used as ground cover shrubs, for hedges and as borders along landscape beds or boundaries. *Berberis thunbergii* is a prolific seed producer; however certain cultivars may be used responsibly when selected for minimal seed production.

Early detection/rapid response: Japanese barberry is easily identified by its rounded habit, green leaf characteristics, thorns, spring yellow flowers and red fruit. The green leaved straight species should not be confused with the purple or yellow leaf barberries. Consult printed or on-line resources for pictorial descriptors of the plant.

Long term control/management: *Berberis thunbergii* can be removed from unwanted areas by mechanical or chemical means. Mechanical removal may take two seasons to eliminate plants due to resprouting of stem fragments. Herbicides used as foliar sprays or cut stump sprays or paints are effective in speeding up the killing process. Chemical applications should be performed in accordance with the manufacturer's label.

Restoration: Removal of *Berberis thunbergii* from any unwanted area may require restoration. In such case, a competent professional should be consulted for appropriate species and planting procedures. Restoration potential is likely to be lowest where *Berberis thunbergii* occurs in high densities and there is a high likelihood of continued dispersal of seeds into the restoration area.

For complete information from the Michigan Plant Invasiveness Assessment System
Consult: <http://invasiveplantsmi.org>