

# Japanese barberry

*Berberis thunbergii*

Fact Sheet

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Common Name: Japanese barberry

New Hampshire Invasive Species Status: Prohibited (Agr 3800)

Latin Name: *Berberis thunbergii*

Native to: Japan



leaves (spring)



Japanese barberry - Antrim, NH



Old truck with barberry (summer)



Flowers (spring)



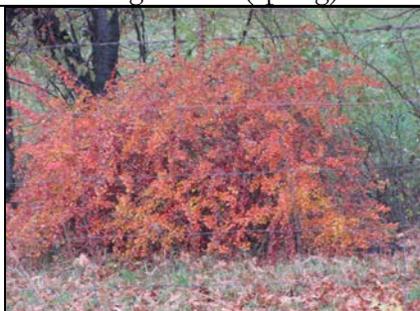
Single thorn (spring)



Seeds & fleshy fruit (fall)



Naturalized cultivar (Summer)



Fall foliage (Autumn)



Late fall (fall)

**Description:** Deciduous shrub, 2-4 1/2' tall. **Leaves:** Ovate, simple, entire. Color varies depending on variety. **Flowers:** Small yellowish, bloom in May in clusters of 2-4. **Fruit:** Drupe, turning red in summer. **Zone:** 4-8. Habitat: Prefers well drained soils in semi shade and often occurring in forests, roadsides, and open fields. **Spread:** Seeds are dispersed by wildlife. **Comments:** Forms dense thickets in natural environments where it becomes established, resulting in impacts to native flora and fauna. **Controls:** Remove small immature plants by hand. Dig larger plants with a garden spade or remove mechanically. Cut stems at base or control with herbicide treatment.

## General Considerations

Japanese barberry reproduces from prolific seeds, rhizomes, or layering. Seeds have a germination rate as high as 90%, and are distributed by birds including ruffed grouse, bobwhite, pheasant, and wild turkey. Because barberry is shade tolerant, an extensive population can become established in a short time under a closed forest canopy. Severe drought or extreme winters have little effect on overall mortality or seed production. Deer avoid barberry while often browsing surrounding vegetation, which may effectively increase barberry's competitive advantage.

Forested/woodland sites invaded by Japanese barberry tend to have higher occurrences of ticks than those habitats not yet invaded. Abundance of black-legged tick (*Ixodes scapularis*), which is a vector for Lyme disease, was greater in the presence of Japanese barberry due to its high evapotranspiration rate.

Information regarding Japanese barberry impacts in invaded communities includes evidence that Japanese barberry invasion displaces native shrubs and causes changes in soil properties. Japanese barberry persistence in invaded stands may also alter successional patterns.

Japanese barberry invasion can alter soil microbial composition and increase nitrate concentrations. High nitrate concentrations may result in higher nitrogen losses due to leaching or might make these sites more susceptible to invasion by other weedy plants. The researchers suggest that even if Japanese barberry is removed, it is very likely that differences in the soils will persist for a prolonged period after that, which might significantly impede the restoration of native flora in the cleared sites.

One study also provides evidence that invaded sites support more biomass in the shrub layer than uninvaded sites. There is concern that additional biomass in invaded stands may increase the likelihood of fire in those stands, although this did not seem to be the case during the growing season on sites studied in Massachusetts.

### Control Options

See the following control guides: [Integrated Pest Management \(IPM\) for Woody Plants](#) or the [Control of Invasive Species by Numbers](#)

<i>Japanese barberry</i> <i>Berberis thunbergii</i>	
Plant Type	Shrub
Habitat Type	Forests, fallow fields, open spaces
USDA Hardiness Zone	4-8
Rooting Structure	Fibrous shallow
Environmental Impacts	Can raise soil pH and affect nitrogen levels.  Maintains ground level humidity to ~80% which is optimum tick habitat.
Wildlife Impacts	Foliage toxic to deer, loss of habitat
Leaf arrangement	Alternate
NWI Ranking	UPL, FCU
Soil Type	
Soil pH Range	3.7 to 7.0
Light Requirements	Prefers partial to full sun, shade
Growing Season	
Growth Rate	2 to 4 feet (0.6-1.2 m) per year
Mature Height	6 ft. (1.8 m)
Life Span	Moderate
Reproductive Age	2 years
Flowering Period	April-May
Flower Type	Monoecious
Pollination	Insects
Seed Set	August - October
Seed Per Plant	>1,000
Scarification Required	Yes
Cold Stratification	90 days
Seed Longevity	1-2 years
Seed Germination Rate	94%
Seedling Density	?
Other Propagules	Layering, suckering
Dispersal Vectors	Wildlife, wind & water

### Sources

Mehrhoff, L., 2001. Invasive Plant Atlas of New England, Catalog of Species, [http://www.eddmaps.org/ipane/ipanespecies/shrubs/Berberis\\_thunbergii.htm](http://www.eddmaps.org/ipane/ipanespecies/shrubs/Berberis_thunbergii.htm)

USDA Forest Service invasive species website: <http://www.fs.fed.us/database/feis/plants/shrub/berthu/all.html>

Invasives.org: <http://www.invasive.org/browse/subinfo.cfm?sub=3010>

Bugwood: [http://wiki.bugwood.org/Archive:SEEPPC/Japanese Barberry - Berberis thunbergii DC.](http://wiki.bugwood.org/Archive:SEEPPC/Japanese_Barberry_-_Berberis_thunbergii_DC)