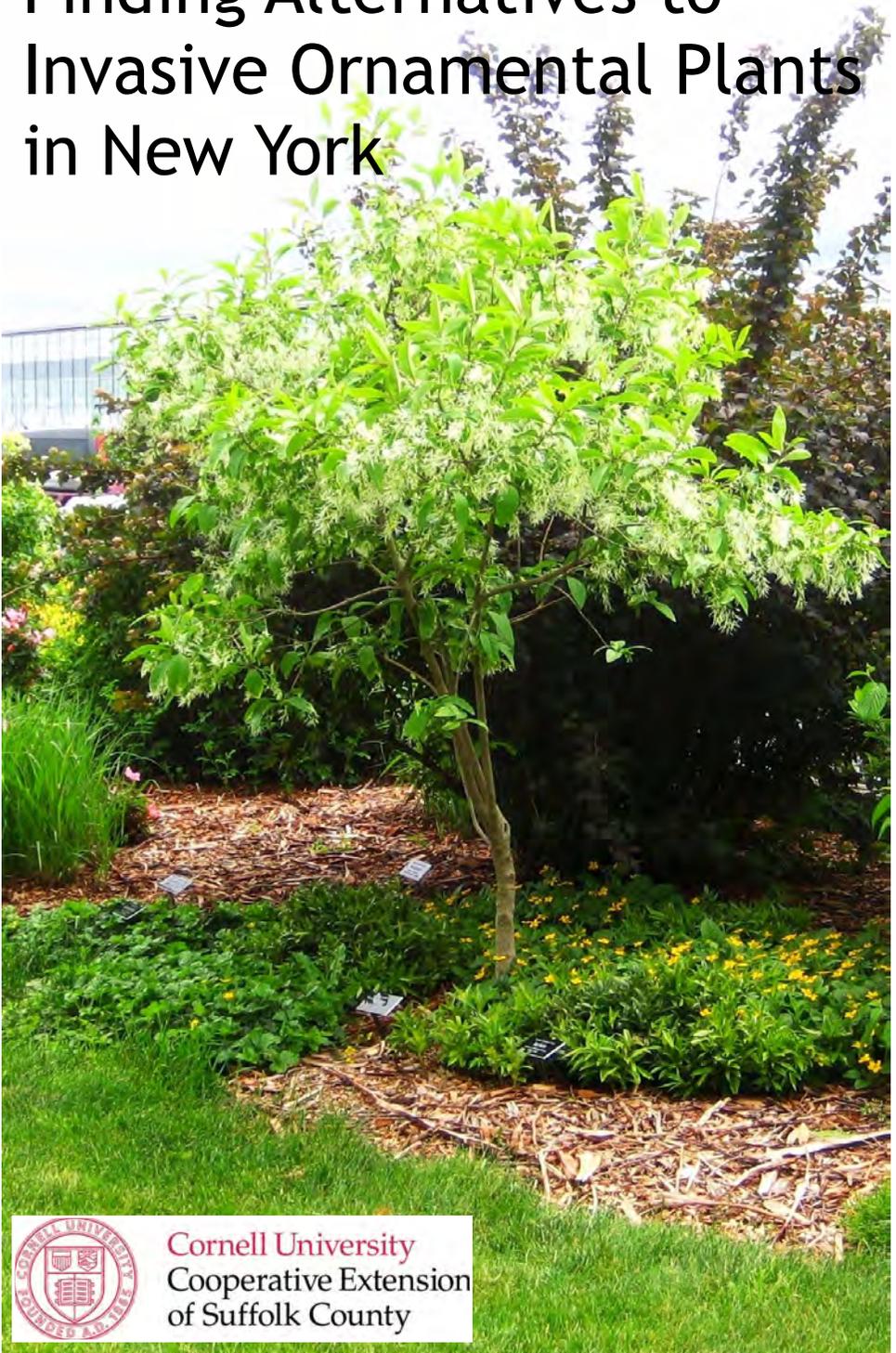


# Finding Alternatives to Invasive Ornamental Plants in New York



Cornell University  
Cooperative Extension  
of Suffolk County

# *Finding Alternatives to Invasive Ornamental Plants in New York*

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**On the Cover:** The Native-Friendly Demonstration Garden, a demonstration garden for some alternative plants to invasive ornamental plants. The Native-Friendly Demonstration Garden is located at the Long Island Horticultural Research & Extension Center, 3059 Sound Avenue, Riverhead, NY 11901.

All photos by Alexis A. Alvey, except where otherwise noted.

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# Introduction

## *Frequently Asked Questions About Invasive Plants*

### ***What is an invasive plant?***

The concept of “invasive” plants can be difficult to define and controversial. An invasive plant is generally considered to be a plant that is not native to the ecosystem under consideration AND whose introduction causes measurable harm to the natural and scenic environment, agriculture, recreation, and human health and safety. This definition DOES NOT include plants which behave aggressively only in garden settings.

### ***Where do invasive plants come from?***

Invasive plants may have been intentionally or inadvertently brought into a specific area for their ornamental value or ability to be used for food, fiber, or habitat restoration. Some invasive plants have been accidentally introduced through such means as ship-ballast dumping, contaminated soil, or mixed with various imported plant materials and crop seeds. They may begin to invade natural areas immediately or many years later. In most cases, the negative impact the species would have on the environment was not predicted or recognized initially.

### ***What makes a plant invasive?***

Non-native plants may become invasive in their introduced environment because they did not evolve with the local flora and fauna and have few or no predators or pests in this new location. An invasive plant may also possess genetic traits that make it a better competitor than native plant species.

The following characteristics allow plants to adapt quickly to a new environment, thrive, and spread. Most invasive plants possess one or more of these traits:

- Abundant reproduction
- Rapid growth rate
- Short generation time/life cycle
- Ability to occupy different habitats
- Ability to adapt to changing environments
- Ability to germinate and establish before native plants
- Ability to senesce later than native plants
- Effective seed dispersal
- Long-lived seeds
- Poisonous or allergenic to other organisms or allelopathic to other plants

Additionally, human-induced changes to natural ecosystems can also provide opportunities for invasive plants to establish and thrive. Invasive plants are usually most com

mon where human development is most common.

It should be noted that only a very small percentage of non-native plant species in the United States display invasive qualities. This small group, however, is able to cause considerable damage to native ecosystems.

### ***How do invasive plants cause harm to the environment?***

Invasive plants may harm the environment by establishing in natural ecosystems and displacing the native flora. This in turn affects wildlife and other species that may be dependent upon indigenous plants for food or habitat. Invasive plants may also disrupt natural ecosystem processes such as hydrology, nutrient cycling, wildfire regimes, natural succession, and soil cycles. This leads to ecological instability and decreased biodiversity.

Following habitat loss, the introduction and spread of invasive species is documented as the second leading cause of global biodiversity loss. About 42% of species listed on the U.S. Threatened or Endangered Species Lists are considered to be at risk primarily due to competition or predation from invasive species (Pimentel et al. 2005<sup>1</sup>).

Control measures employed to manage invasive plants, such as herbicide use and mechanical harvesting, may also increase risk to non-target plant and animal species.

### ***How do invasive plants cause economic loss?***

Invasive plants negatively impact the economy through damage losses and control costs. Invasive plants can directly reduce crop yield, be toxic to cattle, replace valuable forage plants, and increase the need for herbicide applications and other control measures. Aquatic invasive plants can also impact fish stocks, prevent transit through choked waterways, and reduce the recreational value of rivers and lakes.

The annual cost to the US economy for invasive plants is estimated to be \$27 billion in crop systems, \$6 billion in pastures and rangeland, \$1 billion in golf courses, and \$500 million in residential yards and gardens (Pimentel et al. 2005<sup>1</sup>).

### ***How do we know which species are most invasive?***

Recognizing the problem of invasive species, both Nassau and Suffolk Counties on Long Island passed legislation in 2007 that prohibited the sale, transport, distribution, and propagation of dozens of invasive plants.

In order to assess the invasive nature of non-native plant species and make recommendations to legislators, a subcommittee of the Long Island Invasive Species Man-

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<sup>1</sup> Pimentel, D., R. Zuniga, and D. Morrison. 2005. Update on the environmental and economic costs associated with alien-invasive species in the United States. *Ecological Economics* 52: 273 – 288.

agement Area (LIISMA) called the Scientific Review Committee (SRC) was formed in 2008. These efforts were spearheaded by The Nature Conservancy and the Brooklyn Botanic Garden and included observers representing a broad cross-section of interests and expertise such as academia, cooperative extension, the nursery industry, landscape designers, local park services, etc. By the end of 2012 this group had assessed more than 180 species of plants – including aquatics, vines, herbaceous plants, and trees and shrubs – for their invasive potential in New York State and on Long Island. Species were assessed using a ranking protocol designed to be repeatable, based on the best available science, clearly explained and fully documented. Species are evaluated first on a statewide level addressing their ecological impact, biological characteristics and dispersal ability, ecological amplitude and distribution, and difficulty of control. Species are then further assessed on a regional basis, taking local effects into consideration. More details on this process and all assessments can be found on the New York Invasive Species Clearinghouse webpage ([www.nyis.info](http://www.nyis.info)).

Species ranked highly invasive or very highly invasive are prohibited in Nassau and Suffolk Counties; species ranked moderately invasive are not recommended for use in natural areas, parks and preserves and should be removed if found. Any new scientific evidence that emerges will be used to update plant assessments. It should therefore be noted that the LIISMA Invasiveness Rank of the plants described herein is current as of the date of this publication and subject to change in the future if warranted by new research data.

In 2012, New York State passed the Invasive Species Prevention Act. This law provides the NY Department of Environmental Conservation and the NY Department of Agriculture and Markets with the authority to regulate the sale, purchase, possession, introduction, importation and transport of invasive species and establishes penalties for those who violate such regulations. Actions taken pursuant to this new legislation may further change the status of the plant species addressed in this publication and may identify additional invasive and prohibited species.

### ***What can I do about invasive plants?***

First, educate yourself and your clients as to which plants are considered invasive and how to identify these species. Review the information on the LIISMA website ([www.liisma.org](http://www.liisma.org)) and the New York State Invasive Species Clearinghouse ([www.nyis.info](http://www.nyis.info)). The most cost effective action you can take is to prevent new infestations from occurring in the first place. Start with your own nursery or landscape and make sure not to sell or utilize species that are locally prohibited.

Various strategies may be employed to control invasive plants already established in landscapes. Some invasive species are successfully controlled using chemical means (standard pesticide regulations apply when using herbicides) while others may be controlled through a mechanical process such as hand-pulling or a combined approach. If you are unsure how to proceed, consult with a qualified nursery expert, arborist or university cooperative extension office. No matter how you continue, be sure to dispose of invasive plants properly and recognize that plants and plant parts may regrow if dumped irresponsibly. Invasive plant remains should be dried completely or shred-

ded into fine particles to ensure they are no longer viable and bagged in plastic bags for disposal.

There are many native and non-native ornamental plants that are not invasive and can serve as suitable alternatives for invasive plants. This guidebook describes the ornamental history and ecological threat of twenty-five invasive ornamental plants, with suggestions of alternative plants for each invasive species. For each invasive plant the LIISMA SRC Invasiveness Rank (described above) is shown as well as whether the plant is on the Do-Not-Sell List in Nassau and Suffolk Counties. (Please note that the LIISMA Invasiveness Rank and prohibited status on Long Island will not necessarily indicate that the plant will be prohibited in New York State when further details of the NYS Invasive Species Prevention Act are made available.) Following each invasive plant, suggestions of alternative plants are listed. For each suggested alternative plant, information on form, hardiness, native status, landscape function, habit, ornamental features, size, cultural requirements, growth rate, potential pest or cultural problems, and examples of appropriate cultivars are presented.

## INVASIVE

### Amur Maple - *Acer ginnala*



#### Ornamental History

*Acer ginnala* is a small, deciduous maple, native to China and Japan. It is valued for its ability to thrive under tough, urban conditions, and its small stature lends itself to street tree usage beneath overhead utility wires. It is quite adaptable to a wide range of soils and soil pH. Many cultivars have been developed that have samaras that are a striking bright red color in summer and fall, and also that have excellent red fall foliage color.

#### Ecological Threat

*A. ginnala* is able to invade riparian areas, old fields, roadsides, and ditches. It is also reported to grow in woodlands where it can impact the forest community structure by creating a new subcanopy. *A. ginnala*'s specific impact on ecosystem processes is unknown, and data is lacking on its ability to significantly reduce native plant populations. An individual tree can produce up to 10,000 seeds per year, although most seeds fall within 350 feet of the parent tree.

#### LIISMA Invasiveness Rank

- Moderately Invasive
- Not Recommended for Planting

#### Alternatives to Amur Maple

**Trident Maple** - *Acer buergerianum*

**Red Buckeye\*** - *Aesculus pavia*

**Eastern Redbud\*** - *Cercis canadensis*

\* = Native to the U.S. \*\* = Native to NY State (hybrids & cultivars of native species included)

# Trident Maple - *Acer buergerianum*

*Alternative to Amur Maple*



**Form** - small to medium deciduous tree

**Hardiness Zones** - 5-8(9)

**Native Status** - introduced from China and Korea

**Function in the Landscape** - specimen tree; street tree; fall color; commercial sites; beneath overhead utility wires; small or large residential properties

**Habit/Shape** - low-branching, often multi-trunked tree with a rounded crown

**Ornamental Feature(s)** - very lustrous dark green leaves; fall color ranges from yellow to orange to red to purple; exfoliating bark adds winter interest

**Size at Maturity** - 20-35 ft. tall; 20-25 ft. wide

**Cultural Requirements** - full sun; best in acidic, well-drained soil; drought-tolerant

**Growth Rate** - slow

**Cultivars include** - Aeryn®, Streetwise®

**What to Watch For** - relatively pest-free

## Similarities to Amur Maple

- |   |  |
|---|--|
| <input checked="" type="checkbox"/> Form (tree, shrub, perennial, grass, or vine) | <input checked="" type="checkbox"/> Main Ornamental Feature(s) |
| <input checked="" type="checkbox"/> Function in the Landscape                     | <input checked="" type="checkbox"/> Size                       |
| <input checked="" type="checkbox"/> Habit/Shape                                   | <input checked="" type="checkbox"/> Cultural Requirements      |
|   | <input type="checkbox"/> Growth Rate                           |

# Red Buckeye - *Aesculus pavia*

*Alternative to Amur Maple*



**Form** - large deciduous shrub or small deciduous tree

**Hardiness Zones** - 4-8

**Native Status** - Virginia to Florida, west to Texas

**Function in the Landscape** - small specimen plant

**Habit/Shape** - rounded to shrub-like

**Ornamental Feature(s)** - brilliant dark green leaves, red/pink flowers in spring

**Size at Maturity** - 15-15 ft. high and wide

**Cultural Requirements** - partial shade, moist soils

**Growth Rate** - medium

**What to Watch For** - provide adequate, even moisture; avoid dense shade

### Similarities to Amur Maple

- |   |   |
|---|---|
| <input checked="" type="checkbox"/> Form (tree, shrub, perennial, grass, or vine) | <input type="checkbox"/> Main Ornamental Feature(s) |
| <input checked="" type="checkbox"/> Function in the Landscape                     | <input checked="" type="checkbox"/> Size            |
| <input checked="" type="checkbox"/> Habit/Shape                                   | <input type="checkbox"/> Cultural Requirements      |
|   | <input checked="" type="checkbox"/> Growth Rate     |

# Eastern Redbud - *Cercis canadensis*

Alternative to Amur Maple



**Form** - small, deciduous flowering tree

**Hardiness Zones** - 4-9

**Native Status** - East Coast from New Jersey to Florida, and west to Texas and Missouri

**Function in the Landscape** - specimen tree; street tree; commercial sites; beneath overhead utility wires; small residential properties; woodland gardens

**Habit/Shape** - low-branching, often multi-trunked small tree with spreading, ascending branches

**Ornamental Feature(s)** - bright reddish-lavender flowers along branches open in spring; green, heart-shaped foliage; striking bark with red and orange undertones; yellow fall color

**Size at Maturity** - 20-30 ft. tall; 25-35 ft. wide

**Cultural Requirements** - full sun to

partial shade; highly adaptable to various soil types - sandy, clay, alkaline, or acidic; tolerant of infertile soil - fixes its own nitrogen; some drought-tolerance

**Growth Rate** - medium to fast

**Cultivars Include** - 'Alba', 'Appalachian Red', Lavender Twist™

**What to Watch For** - prune out deadwood to prevent spread of canker and *Verticillium* wilt; susceptible to herbicide damage

### Similarities to Amur Maple

- |   |   |
|---|---|
| <input checked="" type="checkbox"/> Form (tree, shrub, perennial, grass, or vine) | <input type="checkbox"/> Main Ornamental Feature(s)       |
| <input checked="" type="checkbox"/> Function in the Landscape                     | <input checked="" type="checkbox"/> Size                  |
| <input checked="" type="checkbox"/> Habit/Shape                                   | <input checked="" type="checkbox"/> Cultural Requirements |
|   | <input checked="" type="checkbox"/> Growth Rate           |

## INVASIVE

### Norway Maple - *Acer platanoides*



#### Ornamental History

Norway Maple (*Acer platanoides*) is a medium-sized, deciduous shade tree that is native to Europe and western Asia. Its ability to thrive in poor, urban soils and the deep shade it provides, have made it a popular choice for planting along streets and in yards and parks throughout the eastern U.S. It has a dense, rounded, crown that turns golden yellow in fall. Many desirable cultivars have been developed, including ones with deep, season-long, crimson foliage, such as 'Crimson King' and 'Royal Red.'

#### Ecological Threat

*A. platanoides* can invade woodlots, forest edges, and fragmented forests, from wind-dispersed seeds of nearby plantings. Once established, *A. platanoides* can then spread to undisturbed forests. Mature trees reduce regeneration of native plants by direct shading - up to 95% of the light available for photosynthesis is unavailable beneath the dense canopy of an *A. platanoides*. Its own seedlings however, are exceptionally shade-tolerant and can grow where native trees cannot. Dense, monospecific stands of *A. platanoides* can form in disturbed areas, and are quite prevalent on vacant urban sites. By preventing the establishment of an herbaceous or shrub layer, *A. platanoides* can also increase risk of soil erosion.

#### LIISMA Invasiveness Status

- Very Highly Invasive
- Banned on Long Island, 1/1/2013 (1/1/2016 for 'Crimson King' & 'Royal Red' cultivars)

#### Alternatives to Norway Maple by Cultivar

##### Green

**Freeman Maple\*\*** - *Acer x freemanii*

**Red Maple\*\*** - *Acer rubrum*

**Sugar Maple\*\*** - *Acer saccharum*

##### Crimson or Red

**Eastern Redbud\*** - *Cercis canadensis*  
(purple cultivars)

**European Beech** - *Fagus sylvatica*  
(purple cultivars)

**Chokecherry\*\*** - *Prunus virginiana*  
(purple cultivars)

\* = Native to the U.S. \*\* = Native to NY State (hybrids & cultivars of native species included)

# Freeman Maple - *Acer x freemanii*

Alternative to Norway Maple (green cultivars)



**Form** - medium to large, deciduous shade tree

**Hardiness Zones** - 4-8

**Native Status** - hybrid of *A. rubrum* and *A. saccharinum* which are both native to the East Coast

**Function in the Landscape** - specimen tree; fall foliage; street tree; commercial sites

**Habit/Shape** - variable by cultivar - columnar, pyramidal, dense, or open

**Ornamental Feature(s)** - striking red to yellow-orange fall color depending on cultivar

**Size at Maturity** - 50-70 ft. tall; 15-40 ft. wide

**Cultural Requirements** - partial shade or full sun; acidic soils; some drought-tolerance

**Growth Rate** - fast

**Cultivars Include** - 'Armstrong', Autumn Blaze®

**What to Watch For** - leafhoppers; circling roots; mechanical injury to thin bark

## Similarities to Norway Maple

- |   |  |
|---|--|
| <input checked="" type="checkbox"/> Form (tree, shrub, perennial, grass, or vine) | <input checked="" type="checkbox"/> Main Ornamental Feature(s) |
| <input checked="" type="checkbox"/> Function in the Landscape                     | <input checked="" type="checkbox"/> Size                       |
| <input checked="" type="checkbox"/> Habit/Shape                                   | <input checked="" type="checkbox"/> Cultural Requirements      |
|   | <input checked="" type="checkbox"/> Growth Rate                |

# Red Maple - *Acer rubrum*

*Alternative to Norway Maple (green cultivars)*



**Form** - medium to large, deciduous shade tree

**Hardiness Zones** - 3b-9

**Native Status** - East Coast, from Canada to Florida and west to Minnesota and Texas

**Function in the Landscape** - specimen tree; fall foliage color; street tree; commercial sites; parks and natural areas

**Habit/Shape** - pyramidal when young, developing a rounded crown

**Ornamental Feature(s)** - brilliant red fall foliage, can vary by cultivar

**Size at Maturity** - 40-60 ft. tall; 25-40 ft. wide

**Cultural Requirements** - partial shade or full sun; best grown in moist, acidic soils; tolerant of wet soils; not drought or salt tolerant

**Growth Rate** - medium to fast

**Cultivars Include** - October Glory®, Red Sunset®

**What to Watch For** - chlorosis in high pH soils (Mn deficiency); girdling roots; sunscald and mechanical injury on thin bark; select cultivars with appropriate cold hardiness; prune when young for a strong branch structure

### Similarities to Norway Maple

- |   |  |
|---|--|
| <input checked="" type="checkbox"/> Form (tree, shrub, perennial, grass, or vine) | <input checked="" type="checkbox"/> Main Ornamental Feature(s) |
|   | <input checked="" type="checkbox"/> Size                       |
| <input checked="" type="checkbox"/> Function in the Landscape                     | <input checked="" type="checkbox"/> Cultural Requirements      |
| <input checked="" type="checkbox"/> Habit/Shape                                   | <input checked="" type="checkbox"/> Growth Rate                |

# Sugar Maple - *Acer saccharum*

*Alternative to Norway Maple (green cultivars)*



**Form** - large, deciduous shade tree

**Hardiness Zones** - 4-8

**Native Status** - East Coast from Canada to Georgia, west to Alabama and Texas

**Function in the Landscape** - specimen tree; shade tree; fall foliage color; street tree; parks and natural areas

**Habit/Shape** - oval to rounded, dense canopy

**Ornamental Feature(s)** - brilliant fall color, ranging from yellow to orange to red

**Size at Maturity** - 50-75 ft. tall; 35-50 ft. wide

**Cultural Requirements** - shade or full sun; moist, fertile soil; tolerant of high pH soils; shade-tolerant; not drought- or salt-tolerant

**Growth Rate** - slow to medium

**Cultivars Include** - Green Mountain®

**What to Watch For** - leaf scorch; verticillium wilt; leafhoppers; choose cultivars which are more drought and heat tolerant than the species; avoid soil compaction, root restriction, and drought

## Similarities to Norway Maple

- |   |  |
|---|--|
| <input checked="" type="checkbox"/> Form (tree, shrub, perennial, grass, or vine) | <input checked="" type="checkbox"/> Main Ornamental Feature(s) |
| <input checked="" type="checkbox"/> Function in the Landscape                     | <input checked="" type="checkbox"/> Size                       |
| <input checked="" type="checkbox"/> Habit/Shape                                   | <input type="checkbox"/> Cultural Requirements                 |
|   | <input type="checkbox"/> Growth Rate                           |

**Eastern Redbud - *Cercis Canadensis*** (purple cultivars)  
*Alternative to Norway Maple (purple cultivars)*



**Form** - small, deciduous flowering tree

**Hardiness Zones** - 4-9

**Native Status** - East Coast from New Jersey to Florida, and west to Missouri

**Function in the Landscape** - specimen tree; street tree; contrast foliage color; commercial sites; beneath overhead utility wires; small residential properties; woodland gardens

**Habit/Shape** - low-branching, often multi-trunked small tree with spreading, ascending branches

**Ornamental Feature(s)** - bright reddish-lavender flowers along branches open in spring; deep burgundy to purplish-green, heart-shaped foliage; striking bark with red undertones; yellow fall color

**Size at Maturity** - 20-30 ft. tall; 25-35 ft. wide

**Cultural Requirements** - full sun to partial shade; highly adaptable to various soil types - sandy, clay, alkaline, or acidic; tolerant of infertile soil - fixes its own nitrogen; some drought-tolerance

**Growth Rate** - medium to fast

**Cultivars Include** - 'Forest Pansy', 'Merlot', 'Ruby Falls'

**What to Watch For** - prune out deadwood to prevent spread of canker and *Verticillium* wilt; susceptible to herbicide damage; select cultivars with appropriate cold tolerance

**Similarities to Norway Maple**

- |   |  |
|---|--|
| <input checked="" type="checkbox"/> Form (tree, shrub, perennial, grass, or vine) | <input checked="" type="checkbox"/> Main Ornamental Feature(s) |
| <input checked="" type="checkbox"/> Function in the Landscape                     | <input type="checkbox"/> Size                                  |
| <input type="checkbox"/> Habit/Shape  | <input checked="" type="checkbox"/> Cultural Requirements      |
|   | <input checked="" type="checkbox"/> Growth Rate                |

**European Beech - *Fagus sylvatica*** (purple cultivars)  
*Alternative to Norway Maple (purple cultivars)*



**Form** - large, deciduous shade tree

**Hardiness Zones** - 4-7

**Native Status** - introduced from Europe

**Function in the Landscape** - specimen tree; shade tree; contrast foliage color

**Habit/Shape** - large, rounded crown with branches to the ground; some cultivars are weeping

**Ornamental Feature(s)** - deep maroon-colored, lustrous foliage; smooth gray bark

**Size at Maturity** - 50-75 ft. tall; 40-60 ft. wide

**Cultural Requirements** - partial shade to full sun; moist, well-drained, acidic soils; not tolerant of compaction, drought, any root injury, or wet sites

**Growth Rate** - slow to medium

**Cultivars Include** - Purpurea group, 'Riversii', 'Spaethiana', 'Rohanii'

**What to Watch For** - woolly beech aphid; beech-bark disease; phytophthora canker on older specimens; mulch beneath canopy to maintain soil aeration and organic matter; performs poorly in dry compacted soil; do not grow turfgrass under canopy

**Similarities to Norway Maple**

- |   |  |
|---|--|
| <input checked="" type="checkbox"/> Form (tree, shrub, perennial, grass, or vine) | <input checked="" type="checkbox"/> Main Ornamental Feature(s) |
| <input type="checkbox"/> Function in the Landscape                                | <input type="checkbox"/> Size                                  |
| <input checked="" type="checkbox"/> Habit/Shape                                   | <input type="checkbox"/> Cultural Requirements                 |
|   | <input type="checkbox"/> Growth Rate                           |

# Chokecherry - *Prunus virginiana* (purple cultivars)

*Alternative to Norway Maple (purple cultivars)*



**Form** - small to medium, deciduous shade tree

**Hardiness Zones** - 2-7

**Native Status** - East Coast, from Canada to North Carolina, west to North Dakota and Missouri

**Function in the Landscape** - specimen tree; contrast foliage color; street tree; small, residential sites; commercial sites; parks and natural areas

**Habit/Shape** - rounded, irregular, relatively thin crown

**Ornamental Feature(s)** - leaves often emerge green and change to bright maroon; ephemeral white flowers in spring produce small, edible berries

**Size at Maturity** - 20-30 ft. tall; 18-25 ft. wide

**Cultural Requirements** - partial shade to full sun; grows best in moist soil;

tolerates a wide range of soils from acidic to alkaline, and from clay to sand; very cold-tolerant

**Growth Rate** - fast

**Cultivars Include** - 'Canada Red', 'Schubert'

**What to Watch For** - prune when young to develop a strong branch structure; tent caterpillars

## Similarities to Norway Maple

- |   |  |
|---|--|
| <input checked="" type="checkbox"/> Form (tree, shrub, perennial, grass, or vine) | <input checked="" type="checkbox"/> Main Ornamental Feature(s) |
| <input checked="" type="checkbox"/> Function in the Landscape                     | <input checked="" type="checkbox"/> Size                       |
| <input checked="" type="checkbox"/> Habit/Shape                                   | <input checked="" type="checkbox"/> Cultural Requirements      |
|   | <input checked="" type="checkbox"/> Growth Rate                |

## INVASIVE

### Porcelain-berry - *Ampelopsis brevipedunculata*



#### Ornamental History

Porcelain-berry (*Ampelopsis brevipedunculata*) is a deciduous, woody vine in the grape family introduced from China, Japan, and Korea. It is a vigorous, clinging vine whose claim to fame is its uniquely colored fruits. In late summer into fall, the berries ripen into beautiful, vibrant shades of blue and amethyst. This vine has lost favor in the modern landscape, but is still occasionally planted next to a trellis or arbor.

#### Ecological Threat

*A. brevipedunculata* is quite adaptable to various soils except those that are permanently wet. *A. brevipedunculata* can invade riparian areas, where it grows extremely vigorously in moist soil along the edges of ponds and stream banks. This vine is also drought-tolerant and is most often seen quickly spreading in open areas of the urban landscape where it can tolerate poor soils of varying pH. Sprawling mats can be formed by this vine, which shade out other plants beneath. The beautiful berries of *A. brevipedunculata* are also its downfall - birds and other small animals eat the colorful fruits and disperse the seeds which have a high germination rate.

#### LIISMA Invasiveness Rank

- Highly Invasive
- Banned on Long Island, 1/1/2009

#### Alternatives to Porcelain-berry

**Bodinier or Purple Beautyberry** -  
*Callicarpa bodinieri*; *C. dichotoma*

**Trumpet Honeysuckle\*\*** - *Lonicera sempervirens*

**Coralberry\*** - *Symphoricarpos orbiculatus*  
(and hybrids)

\* = Native to the U.S. \*\* = Native to NY State (hybrids & cultivars of native species included)

# Bodinier or Purple Beautyberry - *Callicarpa*

*bodinieri*; *C. dichotoma*

Alternative to Porcelain-berry



**Form** - small to medium, deciduous shrub

**Hardiness Zones** - *C. bodinieri*: 6-8; *C. dichotoma*: 5-8

**Native Status** - introduced from China

**Function in the Landscape** - shrub border; accent planting in the fall garden; mass planting; works well in fall perennial borders

**Habit/Shape** - shrub with long, arching or erect, graceful branches

**Ornamental Feature(s)** - abundant clusters of bright purple berries appear in fall

**Size at Maturity** - *C. bodinieri*: 6-10 ft. tall; *C. dichotoma*: 3-6 ft. tall

**Cultural Requirements** - partial shade to full sun; grows best in moist soil

**Growth Rate** - fast

**Cultivars Include** - 'Profusion', 'Issai', 'Early Amethyst'

**What to Watch For** - cold-temperature injury; may prune to 6" above the ground in early spring to promote berries which form on new growth

## Similarities to Porcelain-berry

- |  |  |
|--|--|
| <input type="checkbox"/> Form (tree, shrub, perennial, grass, or vine) | <input checked="" type="checkbox"/> Main Ornamental Feature(s) |
| <input checked="" type="checkbox"/> Function in the Landscape          | <input type="checkbox"/> Size                                  |
| <input type="checkbox"/> Habit/Shape                                   | <input checked="" type="checkbox"/> Cultural Requirements      |
|  | <input checked="" type="checkbox"/> Growth Rate                |

# Trumpet Honeysuckle - *Lonicera sempervirens*

*Alternative to Porcelain-berry*



**Form** - deciduous, flowering vine

**Hardiness Zones** - (3)4-9

**Native Status** - East Coast, from Connecticut to Florida, west to Nebraska and Texas

**Function in the Landscape** - twining vine for use in the residential landscape, supported by a trellis, arbor, or fence

**Habit/Shape** - flowering, twining vine

**Ornamental Feature(s)** - leathery leaves with silver undersides; bright, vibrant flowers in shades of yellow, pink, red, and orange in May through summer; attractive to hummingbirds

**Size at Maturity** - 10-20 ft. or higher

**Cultural Requirements** - full sun for best flowering; grows best in moist, acidic to neutral soil

**Growth Rate** - fast

**Cultivars Include** - 'Major Wheeler', 'Sulphurea', 'John Clayton', 'Alabama Crimson'

**What to Watch For** - aphids; may be pruned directly after flowering to shape and control growth (flowers form on old wood)

## Similarities to Porcelain-berry

- |   |   |
|---|---|
| <input checked="" type="checkbox"/> Form (tree, shrub, perennial, grass, or vine) | <input type="checkbox"/> Main Ornamental Feature(s)       |
| <input checked="" type="checkbox"/> Function in the Landscape                     | <input checked="" type="checkbox"/> Size                  |
| <input checked="" type="checkbox"/> Habit/Shape                                   | <input checked="" type="checkbox"/> Cultural Requirements |
|   | <input checked="" type="checkbox"/> Growth Rate           |

# Coralberry - *Symphoricarpos orbiculatus* (and hybrids)

Alternative to *Porcelain-berry*



**Form** - small to medium, deciduous shrub

**Hardiness Zones** - 4-7(8)

**Native Status** - East Coast from New Jersey to Georgia, west to South Dakota and Texas

**Function in the Landscape** - shrub border; mass planting; natural plantings

**Habit/Shape** - dense shrub with arching branches

**Ornamental Feature(s)** - pink-tinged white flowers in summer; abundant clusters of coral-red berries appear in fall and persist through most of the winter

**Size at Maturity** - 2-5 ft. tall; 4-8 ft. tall

**Cultural Requirements** - partial shade to full sun; tolerates a wide range of soils

**Growth Rate** - fast

**Cultivars Include** - hybrids: *S. x chenaultii*; *S. x doorenbosii*

**What to Watch For** - can sucker and spread by runners if left unchecked; powdery mildew can sometimes be a problem

## Similarities to *Porcelain-berry*

- |  |  |
|--|--|
| <input type="checkbox"/> Form (tree, shrub, perennial, grass, or vine) | <input checked="" type="checkbox"/> Main Ornamental Feature(s) |
| <input checked="" type="checkbox"/> Function in the Landscape          | <input type="checkbox"/> Size                                  |
| <input type="checkbox"/> Habit/Shape                                   | <input checked="" type="checkbox"/> Cultural Requirements      |
|  | <input checked="" type="checkbox"/> Growth Rate                |

## INVASIVE

### Japanese Angelica Tree - *Aralia elata*



#### Ornamental History

Japanese Angelica Tree (*Aralia elata*) is a small-stature, flowering tree from Japan, Korea, and China. Its limited availability and high price have elevated it to “boutique” status among plant collectors. Cultivars with variegated leaves, such as ‘Variegata’, ‘Aurea’, and ‘Silver Umbrella’, are most often planted. The large compound leaves of the tree are arranged in a horizontal branching pattern that brings a unique look to the landscape. *A. elata* really becomes a head-turning, specimen tree in mid- to late summer when the large panicles of creamy white flowers bloom.

#### Ecological Threat

*A. elata* is a highly adaptable plant that thrives in moist, well-drained soil, but is also drought- and heat-tolerant. It has the ability to invade riparian areas, old fields, roadsides, woodlands, and urban areas. The fruits of *A. elata* are eaten and dispersed by birds and other small animals. *A. elata* also root suckers abundantly and can readily re-grow from cut stumps. This small tree can create a new understory layer in woodlands and shade out native herbaceous plants below. *A. elata* is easily mistaken for the native Devils-walkingstick (*A. spinosa*), and is likely much more invasive than previously believed.

#### LIISMA Invasiveness Rank

- Very Highly Invasive
- Banned on Long Island, 1/1/2009

#### Alternatives to Japanese Angelica Tree

**Pagoda Dogwood\*\*** - *Cornus alternifolia*  
(variegated cultivars)

**Kousa Dogwood** - *Cornus kousa*  
(variegated cultivars)

**Staghorn Sumac\*\*** - *Rhus typhina*  
(cutleaf cultivars)

\* = Native to the U.S. \*\* = Native to NY State (hybrids & cultivars of native species included)

**Pagoda Dogwood - *Cornus alternifolia*** (variegated cultivars)  
*Alternative to Japanese Angelica Tree*



**Form** - small, deciduous, flowering tree

**Hardiness Zones** - 3-7

**Native Status** - native to East Coast, from Canada to Georgia, west to Minnesota and Alabama

**Function in the Landscape** - specimen flowering tree on large or small properties; foundation planting; mixed border; accent tree to provide unique variegated foliage and horizontal elements to the landscape

**Habit/Shape** - low-branching tree that is spreading and forms a picturesque, stratified branching pattern

**Ornamental Feature(s)** - unique, white or yellow and green variegated foliage; fragrant, small, off-white clusters of flowers in late spring; dark blue fruits in late summer

**Size at Maturity** - 15-25 ft. tall; 20-30 ft. wide

**Cultural Requirements** - partial shade to full sun; best in moist, well-drained, acidic soil

**Growth Rate** - slow

**Cultivars Include** - 'Argentea', Golden Shadows®

**What to Watch For** - provide adequate moisture and sufficient soil drainage; dogwood borer; cottony scales

**Similarities to Japanese Angelica Tree**

- |   |  |
|---|--|
| <input checked="" type="checkbox"/> Form (tree, shrub, perennial, grass, or vine) | <input checked="" type="checkbox"/> Main Ornamental Feature(s) |
|   | <input checked="" type="checkbox"/> Size                       |
| <input checked="" type="checkbox"/> Function in the Landscape                     | <input type="checkbox"/> Cultural Requirements                 |
| <input checked="" type="checkbox"/> Habit/Shape                                   | <input checked="" type="checkbox"/> Growth Rate                |

**Kousa Dogwood - *Cornus kousa*** (variegated cultivars)  
*Alternative to Japanese Angelica Tree*



**Form** - small, deciduous, flowering tree

**Hardiness Zones** - 5-8

**Native Status** - introduced from Korea, Japan, and China

**Function in the Landscape** - specimen flowering tree on large or small properties; foundation planting; mixed border; accent tree to provide unique variegated foliage and horizontal elements to the landscape; winter interest; commercial sites; beneath overhead utility wires

**Habit/Shape** - low-branching tree that is spreading and forms a picturesque, stratified branching pattern

**Ornamental Feature(s)** - unique, white and green variegated foliage; off-white long-flowering, star-shaped blooms; reddish-pink edible fruits in late summer; rosy pink fall color; beautiful exfoliating bark with age

**Size at Maturity** - 15-25 ft. tall; 20-30 ft. wide

**Cultural Requirements** - partial shade to full sun; best in moist, well-drained, acidic soil

**Growth Rate** - slow to medium

**Cultivars Include** - 'Wolf Eyes', 'Gold Star', Samaritan®

**What to Watch For** - dogwood borer; cottony scales

**Similarities to Japanese Angelica Tree**

- |   |  |
|---|--|
| <input checked="" type="checkbox"/> Form (tree, shrub, perennial, grass, or vine) | <input checked="" type="checkbox"/> Main Ornamental Feature(s) |
|   | <input checked="" type="checkbox"/> Size                       |
| <input checked="" type="checkbox"/> Function in the Landscape                     | <input checked="" type="checkbox"/> Cultural Requirements      |
| <input checked="" type="checkbox"/> Habit/Shape                                   | <input checked="" type="checkbox"/> Growth Rate                |

# Staghorn Sumac - *Rhus typhina* (cutleaf cultivars)

*Alternative to Japanese Angelica Tree*



**Form** - large, deciduous shrub or small tree

**Hardiness Zones** - 4-8

**Native Status** - East Coast from Canada to Georgia, west to Indiana and Iowa

**Function in the Landscape** - mixed border; accent planting in the fall garden; mass planting; low-maintenance landscapes; commercial sites; natural areas

**Habit/Shape** - coarse, low, spreading branches with large, compound leaves give a horizontal structure and tropical feel

**Ornamental Feature(s)** - uniquely divided compound leaves; some cultivars have golden foliage; fiery autumn color; bright crimson upright fruits provide fall and winter interest

**Size at Maturity** - 15-25 ft. tall; 15-30 ft. wide

**Cultural Requirements** - full sun; adaptable to any soil type as long as it is well-drained; very drought-tolerant; tolerant of infertile soils

**Growth Rate** - medium

**Cultivars Include** - Tiger Eyes®

**What to Watch For** - cutleaf varieties tend to sucker less than the species

## Similarities to Japanese Angelica Tree

- |   |   |
|---|---|
| <input checked="" type="checkbox"/> Form (tree, shrub, perennial, grass, or vine) | <input type="checkbox"/> Main Ornamental Feature(s)       |
| <input checked="" type="checkbox"/> Function in the Landscape                     | <input checked="" type="checkbox"/> Size                  |
| <input checked="" type="checkbox"/> Habit/Shape                                   | <input checked="" type="checkbox"/> Cultural Requirements |
|   | <input type="checkbox"/> Growth Rate                      |

## INVASIVE

### Japanese Barberry - *Berberis thunbergii*



#### Ornamental History

Japanese Barberry (*Berberis thunbergii*) is a dense, deciduous shrub introduced from Japan. It is valued for its extreme adaptability, and can withstand drought, heat, and compacted soils. Numerous cultivars have been developed that range from 12 in. to 6 ft. tall, with purple, green, yellow, or variegated foliage. With its great versatility, *B. thunbergii* has become a very popular staple in the modern landscape. It makes an excellent foundation or hedging plant, and can even be used as a barrier due to the small spines along its stems. It is also one of the few truly deer-resistant landscape plants.

#### Ecological Threat

*B. thunbergii* can invade forests, open woods, and old fields, where it forms dense thickets. *B. thunbergii* can alter soil pH and nitrogen levels which may increase its competitive advantage. Because *B. thunbergii* is not palatable to deer, it increases browse pressure on other plants. Over 2,000 fruits can be produced on a single *B. thunbergii*, which are dispersed by birds and small mammals. In forests invaded by *B. thunbergii*, studies have shown that the abundance of Lyme disease-carrying ticks is higher.

#### LIISMA Invasiveness Rank

- Very Highly Invasive
- Banned on Long Island, 1/1/2014

#### Alternatives to Japanese Barberry by Cultivar

Dwarf Purple Old Fashioned Weigela - <i>Weigela florida</i>	Standard Purple Smokebush - <i>Cotinus coggygria</i>	Eastern Ninebark** - <i>Physocarpus opulifolius</i>	Old Fashioned Weigela - <i>Weigela florida</i>
Yellow or Gold Glossy Abelia - <i>Abelia x grandiflora</i>	Border or Greenstem Forsythia - <i>Forsythia x intermedia</i> ; <i>F. viridissima</i>	Boxleaf Honeysuckle - <i>Lonicera nitida</i>	Old Fashioned Weigela - <i>Weigela florida</i>
Green Cranberry Cotoneaster - <i>Cotoneaster apiculatus</i>	Bush Cinquefoil** - <i>Potentilla fruticosa</i>	Fragrant Sumac** - <i>Rhus aromatica</i>	Old Fashioned Weigela - <i>Weigela florida</i>

\* = Native to the U.S. \*\* = Native to NY State (hybrids & cultivars of native species included)

**Old Fashioned Weigela - *Weigela florida*** (dwarf purple cultivars)

*Alternative to Japanese Barberry (dwarf purple cultivars)*



**Form** - small, deciduous, flowering shrub

**Hardiness Zones** - 5-8(9)

**Native Status** - introduced from Japan

**Function in the Landscape** - groupings in the shrub border; foundation plantings; commercial sites; contrast foliage color

**Habit/Shape** - small, dense, compact, rounded, symmetrical shrub

**Ornamental Feature(s)** - purple cultivars have dark purple to reddish bronze foliage; brightly colored azalea-like flowers in late-May to early-June

**Size at Maturity** - 2-3 ft. tall; 2-3 ft. wide

**Cultural Requirements** - full sun; very adaptable to different soil types; pollution-tolerant

**Growth Rate** - medium

**Cultivars Include** - Dark Horse®, Fine Wine™, Midnight Wine®, Ruby Queen®

**What to Watch For** - relatively pest-free

**Similarities to Japanese Barberry**

- |   |  |
|---|--|
| <input checked="" type="checkbox"/> Form (tree, shrub, perennial, grass, or vine) | <input checked="" type="checkbox"/> Main Ornamental Feature(s) |
| <input checked="" type="checkbox"/> Function in the Landscape                     | <input checked="" type="checkbox"/> Size                       |
| <input checked="" type="checkbox"/> Habit/Shape                                   | <input checked="" type="checkbox"/> Cultural Requirements      |
|   | <input checked="" type="checkbox"/> Growth Rate                |

# Smokebush - *Cotinus coggygia* (purple cultivars)

*Alternative to Japanese Barberry (standard purple cultivars)*



**Form** - large, deciduous, flowering shrub

**Hardiness Zones** - (4)5-8

**Native Status** - introduced from Europe and central China

**Function in the Landscape** - shrub border; foundation plantings; commercial sites; contrast foliage color; mass plantings; can also be grown as a small tree

**Habit/Shape** - upright and rather open with long shoots

**Ornamental Feature(s)** - purple cultivars have rich maroon, rounded foliage; reddish-purple fall color; soft, smoky-pink panicles appear in June and last through the summer

**Size at Maturity** - 10-15 ft. tall; 10-15 ft. wide

**Cultural Requirements** - best in full sun; very adaptable to different pH

and soils as long as there is good drainage; drought-tolerant; somewhat salt-tolerant

**Growth Rate** - medium

**Cultivars Include** - 'Grace', 'Royal Purple'

**What to Watch For** - verticillium wilt

## Similarities to Japanese Barberry

- |   |  |
|---|--|
| <input checked="" type="checkbox"/> Form (tree, shrub, perennial, grass, or vine) | <input checked="" type="checkbox"/> Main Ornamental Feature(s) |
| <input checked="" type="checkbox"/> Function in the Landscape                     | <input checked="" type="checkbox"/> Size                       |
| <input type="checkbox"/> Habit/Shape  | <input checked="" type="checkbox"/> Cultural Requirements      |
|   | <input checked="" type="checkbox"/> Growth Rate                |