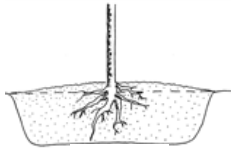


How to Plant Your New Non-Invasive Plants

How to plant and where to plant are important factors in the long-term success of each planting.

Refilling the Hole

When replacing soil, break up clumps. Use fingers to press soil against roots to avoid large air pockets. After planting is completed, water the plant.



Mulching

Place mulch to a depth of 2 inches around the surface of the planting. **Do not mound the mulch against the plant.**



Woodland in a Hamilton County park with understory invaded by Amur honeysuckle

Alternatives for Invasive Plants Partnering Resources

This brochure was funded by the Dr. Thelma I. Schoonover Fund of The Columbus Foundation and represents a collaborative effort by these partners:



OIPC participates in statewide efforts to address the threats of invasive species to Ohio's ecosystems and economy. www.oipc.info



The Dawes Arboretum
Trees • History • Nature

The Dawes Arboretum is dedicated to increasing the love and knowledge of trees, history and the natural world. www.dawesarb.org; 800.44.DAWES; information@dawesarb.org



Ohio Nursery & Landscape Association represents the interests of Ohio's nursery, garden center, and landscape industry. www.onla.org; 614.889.1195; info@onla.org



Restored woodland in a Hamilton County park after removal of Amur honeysuckle

Please recycle. This paper is made from 30% post-consumer waste.

Alternatives for Invasive Plants in Ohio

A Guide for Landscaping and Habitat Restoration



Spiked blazing-star in an Ohio prairie – a good alternative to purple loosestrife



Replacing *Invasive* Plants with Attractive *Non-Invasive* Plants

Introduction

Invasive plants are non-native species that threaten Ohio's natural areas by altering the native biodiversity found in our forests, savannas, grasslands, prairies, and wetlands. Invasive plants and habitat destruction are the greatest threats to natural areas. We can all help minimize the impact of invasive plants by removing these species when they occur in our landscaping or surrounding habitat. Invasive plants, by nature, do not stay where they were planted, moving by seed and/or by vegetative means to surrounding natural areas. Control and removal of invasive plants in natural areas is a huge challenge for both private landowners and public land managers. Restoration may include replanting native species, or in many cases, the native species will re-establish once the invasives are removed.

Helpful Definitions

Native (or indigenous) – a species that has been present in Ohio prior to substantial European settlement (1750 in Ohio).

Non-native (also known as exotic, alien, or introduced) – a species that was introduced to Ohio by humans, either deliberately or accidentally, from other states or countries.

Invasive – a non-native species that is able to establish itself within existing native plant communities in natural areas (forests, grasslands, savannas, wetlands); invasive species pose a threat to the integrity and native biological diversity of the community by outcompeting native species.

Cultivar – a plant variety that has been selected and maintained through cultivation.

Choosing Alternatives to Invasives

The plants described in this brochure have been found to be invasive in Ohio's natural areas by the Ohio Invasive Plants Council (OIPC). Since 2013, OIPC's Assessment Team has been evaluating potentially invasive plants using a rigorous, scientific protocol. While there are more species that are likely to be assessed and found to be invasive, the 15 covered in this brochure have been evaluated as of 2016 and are often found in landscaped areas or on neighboring private lands. Many of the invasive plants in this brochure were introduced to the U.S. in the 19th century from Europe or Asia, often as ornamentals, but also for other uses such as soil stabilization and wildlife habitat.

Gardeners and landowners are often looking to replace invasive plants in their landscapes or in adjacent natural habitat. Invasive plants may be in our yards, woods, grasslands, or wetlands and we can choose to remove them. Many of these invasive, non-native plants have been in our landscapes for years, while others are currently sold in the nursery industry.

Guidance for Ohio Gardeners and Landowners

This brochure provides a few suggestions for gardeners and landowners regarding some alternative plants that are native or otherwise non-invasive, and that are available in many Ohio nurseries and garden centers. Straight species, rather than cultivars, are usually preferred in habitat restoration. Note that there are additional alternatives besides those suggested here. Cultivars of the assessed invasive plants which are sterile (do not produce seeds) are likely not invasive, while those that produce seeds are likely invasive in natural areas, as has been documented with many of these species, such as the Asian bush honeysuckles.

Invasive Plants to *Replace*

Note: * indicates a photo is shown inside; (US) indicates plant is native to US; (OH) indicates plant is native to Ohio; (NN) indicates non-native; (CV) indicates cultivar.

Tree-of-Heaven (*Ailanthus altissima*)

TREE

- Fast-growing, deciduous tree with rank-smelling leaves
- Thrives as an early successional species in woods
- Female trees produce many fruits and it re-sprouts quickly from cut stumps



Recommended Alternatives:

American hop-hornbeam (*Ostrya virginiana*)*-OH
cucumber-tree magnolia (*Magnolia acuminata*)-OH
pecan (*Carya illinoensis*)-US

Callery Pear (*Pyrus calleryana*)

TREE

- White flowers in early spring have a bad odor; glossy leaves which turn red to purple in fall
- Prolific fruits change from green to brown, not edible
- Fast growth, often invading roadsides, fields, and meadows



Recommended Alternatives:

serviceberries (*Amelanchier* spp.)*-US/OH
black tupelo (*Nyssa sylvatica* & CVs)*-OH
willow oak (*Quercus phellos*)-US

Asian Bush Honeysuckles: Amur, Morrow, and Tatarian (*Lonicera maackii*, *Lonicera morrowii*, and *Lonicera tatarica*)

SHRUB

- Form dense populations in the understory of woods
- Leaf out early and hold leaves late in the fall
- Seeds from red berries are dispersed by birds and deer



Recommended Alternatives:

bottlebrush buckeye (*Aesculus parviflora*)*-US
black chokeberry (*Aronia melanocarpa*)-OH
summersweet clethra (*Clethra alnifolia* & CVs)-US
common winterberry (*Ilex verticillata* & CVs)*-OH



Invasive Plants to *Replace*

Autumn- and Russian-Olives (*Elaeagnus umbellata*, *Elaeagnus angustifolia*)

SHRUB

- Shrub, small tree with silvery leaves, thrives in poor soil
- Fruit is red (autumn-olive) or yellow (Russian), containing seeds with high viability
- Fragrant cream-colored or pale yellow flowers in spring



Recommended Alternatives:

silky dogwood (*Cornus amomum*)-OH
gray dogwood (*Cornus racemosa*)*-OH
American hop-hornbeam (*Ostrya virginiana*)*-OH

Glossy Buckthorn (*Fragula alnus* or *Rhamnus frangula*)

SHRUB

- Small deciduous tree or large shrub that produces many fruits, turning from red to black
- Forms dense colonies, particularly in wetlands and moist woods
- Cut-leaf forms are sold as cultivars



Recommended Alternatives:

summersweet clethra (*Clethra alnifolia* & CVs)*-US
buttonbush (*Cephalanthus occidentalis*)*-OH
common winterberry (*Ilex verticillata*)*-OH
cutleaf elderberry (*Sambucus canadensis* 'Laciniata/Acutiloba')*-CV

Common Buckthorn (*Rhamnus cathartica*)

SHRUB

- Deciduous shrub or small tree with heavy fruit production
- Produces many seedlings and has vigorous sprouting
- Prefers more upland habitats than glossy buckthorn



Recommended Alternatives:

black chokeberry (*Aronia melanocarpa*)*-OH
gray dogwood (*Cornus racemosa*)*-OH
(native) bush-honeysuckles (*Diervilla* spp.)-US
common witch-hazel (*Hamamelis virginiana*)-OH

Invasive Plants to *Replace*

Japanese Barberry (*Berberis thunbergii*)

SHRUB

- Spiny, deciduous shrub with cultivars that are available with green, yellow, or purple foliage
- Leaves out early and spreads vegetatively as thickets in the understory of woods
- Most cultivars produce fruit, which often contain viable seeds



Recommended Alternatives:

for yellow and purple foliage
fothergilla (*Fothergilla* spp.)-US
Lemony Lace™ elderberry (*Sambucus racemosa*)*-CV
Tor birchleaf spirea (*Spiraea betulifolia* 'Tor')*-CV
sweetshrub (*Calycanthus floridus*)*-US

Japanese Honeysuckle (*Lonicera japonica*)

VINE

- Semi-evergreen, sprawling woody vine that climbs over other vegetation, fragrant flowers
- Spreads by trailing branches and produces black berries
- Often blankets the ground in woods



Recommended Alternatives:

crossvine (*Bignonia capreolata*)*-OH
woodbine honeysuckle (*Lonicera periclymenum*)-NN
trumpet honeysuckle (*Lonicera sempervirens*)-US

Oriental Bittersweet (*Celastrus orbiculatus*)

VINE

- Deciduous, twining woody vine that climbs and covers trees and other vegetation
- Orange-red fruits have been used in craft arrangements
- Often hybridizes with native American bittersweet



(Be sure to identify oriental bittersweet correctly before removing it, as American bittersweet is similar. Visit the OIPC website at www.oipc.info for more information on identification.)

Recommended Alternatives:

woolly pipevine (*Aristolochia tomentosa*)-US
Winter Gold winterberry (*Ilex verticillata*)*-CV
trumpet honeysuckle (*Lonicera sempervirens*)-US

Invasive Plants to *Replace*

Wintercreeper (*Euonymus fortunei*)

VINE

- Evergreen, woody vine with aerial roots, allowing it to climb into tree canopies
- Forms carpets on the ground in woods, and can overtop and shade out trees
- Waxy leaves make it difficult to control, even with herbicide application



Recommended Alternatives:

Allegheny pachysandra (*Pachysandra procumbens*)*-US
Canadian wild-ginger (*Asarum canadense*)-OH
Gro-low fragrant sumac (*Rhus aromatica* 'Gro-low')*-CV

Purple Loosestrife (*Lythrum salicaria*)

HERB

- Herbaceous perennial with enormous seed production
- Forms dense populations in wetlands, displacing nearly all native plants
- Cultivars marked as "sterile" often set seed when in proximity to invasive *L. salicaria* populations



Recommended Alternatives:

swamp milkweed (*Asclepias incarnata*)-OH
spiked blazing-star (*Liatris spicata*)*-OH
Carolina phlox (*Phlox carolina*)-US

Chinese Silver Grass (*Miscanthus sinensis*)

GRASS

- Tall (3-8'), perennial grass with large plume-like flower clusters
- Aggressively spreads into grasslands and open areas
- Many cultivars on the market are fertile, which may produce abundant seedlings



Recommended Alternatives:

big bluestem (*Andropogon gerardii*)-OH
switch grass (*Panicum virgatum*)*-OH
Indian grass (*Sorghastrum nutans*)-OH

Alternatives for Invasive Plants in Ohio



American hop-hornbeam
(*Ostrya virginiana*)-OH



black tupelo
(*Nyssa sylvatica* & CVs)-OH



bottlebrush buckeye
(*Aesculus parviflora*)-US



Ruby Spice summersweet clethra
(*Clethra alnifolia* & CVs)-US



gray dogwood
(*Cornus racemosa*)-OH



common winterberry
(*Ilex verticillata* & CVs)-OH

Alternatives for Invasive Plants in Ohio



buttonbush
(*Cephalanthus occidentalis*)-OH



black chokeberry
(*Aronia melanocarpa*)-OH



Lemony Lace™ elderberry
(*Sambucus racemosa*)-CV



Tor birchleaf spirea
(*Spiraea betulifolia* 'Tor')-CV



sweetshrub
(*Calycanthus floridus*)-US



spiked blazing-star
(*Liatris spicata*)-OH

Alternatives for Invasive Plants in Ohio



crossvine
(*Bignonia capreolata*)-OH



switch grass
(*Panicum virgatum*)-OH



Allegheny pachysandra
(*Pachysandra procumbens*)-US



cutleaf elderberry
(*Sambucus canadensis* 'Laciniata/Acutiloba')-CV



Winter Gold winterberry
(*Ilex verticillata*)-CV



serviceberries
(*Amelanchier* spp.)-US/OH