Avoiding Invasive Plant Species When Gardening in New Jersey

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Introduction

• Every plant is native somewhere

• Many garden plants are “exotic” (not native to the country or region where they are now grown)

• Some are poor competitors and only succeed with the TLC from a gardener

• Others, though, can become invasive
Definition: Invasive Species

- A species considered to be alien or non-native to an ecosystem, which can cause environmental harm or harm to human health.
Invasive organisms

- 50,000 species introduced into US in past 500 years

- Not all invasive

- Of 4,200 “weed” species, 630 cause excessive harm

- Invasive plants are, by nature, a regional or local problem.
  - A plant that jumps out of the garden in one climate and habitat type may behave perfectly in another
New Jersey Facts

- 10,000+ non-native introductions
- 1,000 established non-native plants (about 30% of NJ’s flora)
  - 50 widespread invasive plant species
- 150 emerging or potentially invasive plants
- Invasive species cost NJ agriculture about $290 million / year (33% of total agricultural cash receipts)
Economic impacts

- About 65% of invasive plants in wild lands were originally introduced as garden plants.

- In the United States, the estimated cost of controlling invasive species is $138 billion per year.

- Invasive species now occupy more than 100 million acres with 3 million additional acres being affected every year.
Economic impacts

• Recreational and agricultural property value decrease
• Increase expenditures on management of invasive species
• Develop costs associated with environmental damage
• Increased crop losses
Invasives are harmful to the environment

- Alter ecosystem structure and function
- Difficult to control and eradicate
- Perceived as exotic and therefore sold in garden centers
- Frequently used as “problem solvers” especially along highways for erosion control in disturbed areas where they thrive
- Displace native-seeds distributed by birds and other wild animals.
- Some natives hybridize with aliens, affecting the gene pool of the native plant
- Free of natural controls (insects and diseases) that would keep them in check in their native environments.
Ecological Effects of Invasive Species

• Outcompete native and endangered species
• Less survival of native species
• Lower diversity of native species
• Reduce hunting and fishing potential
• Habitat aesthetics diminished
Ban all exotic garden plants?

Border War
By GEORGE BALL
Published: March 19, 2006
Warminster, Pa.

THE horticultural world is having its own debate over immigration, with some environmentalists warning about the dangers of so-called exotic plants from other countries and continents "invading" American gardens. These botanical xenophobes say that a pristine natural state exists in our yards and that to disturb it is both sinful and calamitous. In their view, exotic plants will swallow your garden, your neighbors' gardens and your neighbors' neighbors' gardens until the ecosystem collapses under their rampant suffocating growth.

If anything suffocates us, though, it will be the environmentalists' narrowmindedness. Like all utopian visions, their dream beckons us into a perfect and rational natural world where nothing ever changes — a world that never existed and never will.
Reality Check!

- Ecologists don’t ask that all exotic garden plants be banned

- BUT tremendous damage is being done to natural ecosystems by a small number of garden species that can become invasive

- Educated gardeners can easily avoid the relatively few species known to cause problems and focus on the numerous species that can be enjoyed without worry or guilt.
Characteristics of invasive plants

• Rapid growth and maturity
• Prolific seed production
• Highly successful seed dispersal, germination, and colonization
• Effective vegetative spread
• Ability to outcompete native species
  – Often unpalatable to native herbivores (e.g. deer)
Problem Species in Local Parks

• Emailed Monmouth and Ocean County Park officials
• Asked for a list of “most hated” garden invasives
• 4 detailed responses
  – Ken Thoman, Monmouth County Park Superintendent
  – Kevin Holcomb, Wildlife Biologist Forsythe National Park
  – Cynthia L. Coritz, Bass River State Forest
  – Robert Auermuller Wharton State Park Superintendent
Top 4 (Mentioned by all respondents)

Chinese and Japanese Wisterias (*Wisteria sinensis, W. floribunda*)

- Hard woody vines twine tightly around host tree trunks and branches girdling and killing them
- Vines can form dense thickets that smother and shade out native vegetation by numerous above-ground stems that develop roots and shoots
- Negatively impacts wildlife dependent on native vegetation for forage, nesting, and cover

http://farm4.static.flickr.com/3237/2939721819_ae496c2c2a.jpg
Wisteria killing a pine
Top 4 (Mentioned by all respondents)

Japanese Barberry  
*(Berberis thunbergii)*

- Decorative shrub valued for its attractive foliage and colorful berries
- Each plant makes many seeds which are transported by birds to surrounding habitats.
- Overgrows native shrubs and changes soil pH to make it less hospitable to native species.
The scope of the barberry invasion in this park is particularly easy to see in early spring.
Top 4 ( Mentioned by all respondents)

Yellow (Asian) Honeysuckles *Lonicera* spp.

- Heady fragrance of these ornamental vines makes them a common choice for gardens

- Seeds are spread by birds into surrounding wild areas where vines overgrow and choke native vegetation

http://nyis.info/plants/Honeysuckle.aspx
Honeysuckle overgrowing native trillium
Top 4 ( Mentioned by all respondents)  

Non-native Bamboos  
(Bambusa, Phyllostachys, Psuedosassa)  

- Evergreen and hardy to -25 F, these bamboos produce culms each season that grow to more than 30' in just weeks  
- Clumping bamboos not AS bad. Running = very bad!
Bamboo invading Pequannock

Wednesday, June 2, 2010

BY STEVE JANOSKI
Suburban Trends
STAFF WRITER

Bamboo shoots around the town have drawn the attention of the Township Council, which is becoming concerned that if left unchecked, the invasive plant could disrupt or destroy the ecosystems in Pequannock’s parks.

Councilman Jay Vanderhoff brought the issue to the council’s attention at its May 25 meeting when he said that he had received complaints from some residents whose neighbors had planted bamboo and let it spread.

Vanderhoff said that the bamboo grows very quickly and that he has seen it take over acres of property in Virginia.

One of the stands of bamboo found throughout Pequannock that has drawn the attention of the Township Council, which is fearful that the fast-growing plant will spread to the town’s parks.
Other Biggies locally (3/4)

• Bradford Pear (*Pyrus calleryana*)
Other Biggies locally (3/4)

Periwinkle (*Vinca minor*)

http://www.hiltonpond.org/images/VincaMinorSpring01.jpg
Other Biggies locally (3/4)

English Ivy (*Hedera helix*)
Other Biggies locally (3/4)

Winged Burning Bush (*Euonymous alata*)

http://delawarewildflowers.org/images/euonymus_alata_2.jpg
Other Biggies locally (3/4)

Norway Maple (*Acer platanoides*)
Also Mentioned

- Chinese silvergrass (*Miscanthus sinensis*)
- Weeping lovegrass (*Eragrostis curvulata*)
- Ditch lily (*Hemerocalis fulva*)
- Purple loosestrife (*Lythrum salicaria*)
- Bush clover (*Lespedeza cuneata*)
- Oriental bittersweet (*Celastrus orbiculata*)
- Privets (*Ligustrum spps.*)
- Russian and Autumn Olives (*Elaeagnus angustifolia* and *E. umbellata*)
- Japanese Maple (*Acer palmatum*)
There’s always an alternative!

Things to look for:

- Locally or regionally native species
- Flowers or fruit the same color / shape
- Blooms at similar time
- Foliage similar in form, texture, and color
- Overall shape and size similar
- Multiple seasons of interest
- Similar root system
- Easy to establish and maintain
- Grows in same hardiness zone and under same conditions
E.g. Native Alternatives to Japanese Barberry

Witch Alder (*Fothergilla gardenii*)
- Small rounded shrub
- 3-5 feet tall and wide
- Fuzzy white flowers early spring
- Orange to burgundy fall color

Sweetspire (*Itea virginica*)
- Arching round form
- Fragrant white flower clusters
- Flaming autumn color
e.g. Native alternatives to Asian Honeysuckles

Trumpet honeysuckle (*Lonicera sempervirens*)
- Deciduous vine
- Scarlet flowers
- Small red berries
- Gray/green leaves
- Exfoliating winter bark

Winterberry (*Ilex verticillata*)
- Medium to large shrub
- 6-12 feet tall and wide
- Quilted foliage
- Brilliant red berries
- Twiggy winter silhouette
e.g. Native alternative to Invasive Bamboos

- Native bamboo a.k.a. switch cane or giant cane (*Arundinaria gigantea*).
- Hardy to -23 F
- Grows up to 25 feet tall

http://www.bamboogarden.com/A.-gigantea2.jpg
E.g. Native alternative to Asian Wisterias

American wisteria (*Wisteria frutescens*)
Voluntary Codes of Conduct For The Gardening Public

Center for Plant Conservation (http://www.centerforplantconservation.org/invasives/codesN.html)

• Ask for non-invasive species when acquiring new plants

• Seek information on which species are invasive in your area

• Remove or police (dead head, confine) any potential problem species already in your garden present and replace with non-invasive species suited to your site and needs.
Voluntary Codes of Conduct For The Gardening Public

Center for Plant Conservation (http://www.centerforplantconservation.org/invasives/codesN.html)

• Do not trade plants with other gardeners if you know they have invasive characteristics

• Request local botanical gardens and nurseries promote, display and sell only non-invasive species.

• Be particularly careful when buying plants and seeds on internet or by mail order as this can contribute to spread of invasive species from one part of country to another.
Voluntary Codes of Conduct For The Gardening Public

Center for Plant Conservation (http://www.centerforplantconservation.org/invasives/codesN.html)

• Help educate your community and other gardeners in your area through personal contact, and in such settings as garden clubs and other civic groups.

• Ask garden writers and other media to emphasize problem of invasive species and provide information.
  – Request they promote only non-invasive species.
Voluntary Codes of Conduct For The Gardening Public

Center for Plant Conservation (http://www.centerforplantconservation.org/invasives/codesN.html)

- Invite / provide speakers knowledgeable on invasive species issue to speak to garden clubs, master gardeners, schools and other community groups.

- Organize and (for experts like this group) guide volunteers to remove invasive plant species.

http://swni.org/CMS-Uploads/BCsOSpL0726.jpg
Voluntary Codes of Conduct For The Gardening Public

Center for Plant Conservation (http://www.centerforplantconservation.org/invasives/codesN.html)

• Participate in early detection, rapid response (EDRR) by reporting invasive species you observe in your area.

• If no 800 number /website exists for such reporting (which it doesn’t in most of NJ!), request that one be established
  – For most areas, local co-operative extension is best bet.
Voluntary Codes of Conduct For The Gardening Public

Center for Plant Conservation (http://www.centerforplantconservation.org/invasives/codesN.html)

• Assist garden clubs in creating policies regarding use of invasive species, not only in horticulture, but also in activities such as flower shows.

• Urge florists and others to eliminate use of invasive plant materials

• Lists of known invaders can be obtained from state and federal agencies and non-profit groups e.g. Nature Conservancy, state Native Plant Societies, USDA etc.
Voluntary Codes of Conduct For The Gardening Public

Center for Plant Conservation (http://www.centerforplantconservation.org/invasives/codesN.html)

• If you see your local nursery selling invasive plants or seeds, voice your concerns.

• Avoid buying / planting mixtures of seeds, especially ones labeled "wildflowers." Many contain invasive species. Others are too poorly labeled to tell.

  – University of Washington study: Planted 19 wildflower seed mix packets. All contained from 3 - 13 species identified as invasive in some part of North America.
Voluntary Codes of Conduct For The Gardening Public

Center for Plant Conservation (http://www.centerforplantconservation.org/invasives/codesN.html)

- Landscape and garden with plants native to your area.
  - Although many non-native plants are not invasive, emphasizing natives can provide other advantages such as food, cover, or nesting sites for butterflies and birds.
  - Native plants also need less water, fertilizer and pesticide
Voluntary Codes of Conduct For The Gardening Public

Center for Plant Conservation (http://www.centerforplantconservation.org/invasives/codesN.html)

• Don't dump aquatic plants or aquarium water into local waters.
  – Many plants for water gardens and aquaria are highly invasive.
  – E.g. Eurasian watermilfoil, an aquatic weed that spreads rapidly and replaces natives, became established after being discarded from a personal aquarium.

• Compost unwanted plants
Voluntary Codes of Conduct For The Gardening Public

Center for Plant Conservation (http://www.centerforplantconservation.org/invasives/codesN.html)

• Be a good neighbor.
  – Never dispose of unwanted plants or lawn or garden clippings in a nearby park or natural area.
  – Invasive plants can spread from plant fragments, seeds, and berries.
Conclusions

• Practice and mentor responsible gardening
  – With research can identify which species are invasive within any given region and avoid using them or remove them if present already
  – Many tools available to help identify less damaging alternatives
    • Internet
    • Old fashioned paper (Books)
  – Using native plants may require different planting strategies (clumps rather than single plants) to give optimal results
Future Needs

- Much work to be done in NJ to get up to speed in terms of combating invasive species
- NJ has an invasive species council and comprehensive invasive species management plan.
- **However**, NJ has made no significant changes to its laws and regulations related to invasive species in recent years.
  - No EDRR program
  - No “illegal for sale list” for the State
  - No funding for research or eradication of invasive species or native restoration
Future Needs

• Central Jersey Invasive Species Strike Team
  – NJ’s first early detection & rapid response network
  – Partnership of 50+ public and private entities including federal, state, county, and municipal agencies, conservation groups, and private individuals.
  – CJISST covers 1.6 million acres across 9 counties
    • Essex, Hudson, Hunterdon, Mercer, Middlesex, Monmouth, Morris, Somerset and Union.
  – Badly need something like this for rest of State