

How Researchers and the Nursery Industry Can Work Together to Prevent Plant Invasions

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Invasive Species:

“An alien [non-native] species whose introduction does or is likely to cause economic or environmental harm or harm to human health.” Executive Order 13112





Invasive plant species cost approx. \$35 billion per year in the US (Pimental et al. 2005)

Only a limited number of introduced, non-native plants are invasive:

25,000 introduced plant species in US



5,000 escaped species

(Pimentel et al. 2005)

Of those non-native species invasive in the US:

- Most herbaceous species introduced accidentally



Centaurea solstitialis



Euphorbia esula

- Most woody species purposely introduced for horticulture



Elaeagnus angustifolia



Lonicera maackii

82% of 235 spp.
(Reichard & White 2001)

Many US introductions result from early USDA plant explorations:

Pyrus calleryana



Frank Meyer



Current Preventive Measures:

Regulation

- Government

 - US Federal Noxious Weed List

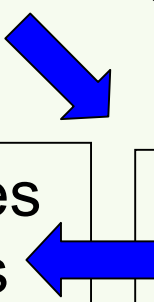
 - Various State Regulations

- Voluntary

 - Various State Regulations

Future invasions of non-natives can be prevented by researchers and nurserymen partnering together.

Researchers	Nurserymen
• Study evolution of invasiveness • Possess molecular & ecological tools	• Direct experience with non-natives • Involved in introducing new species
• Develop new techniques for creating alternatives	• Work on frontlines to screen introductions for invasive traits



How to Make It Work:

1) Increase Dialogue Among Stakeholders

- OIPC and ONLA is in initial steps

2) Develop Alternatives for Existing Species

Examples:

Cultivars being developed by Lake County Nursery

- Some being tested in trials in collaboration with Univ. of Connecticut researchers

MIDNIGHT RUBY_{TM}

Dwarf Pygmy Barberry

Berberis thunbergii 'Miruzam'

A Lake County Nursery 'ZAM' Introduction

MIDNIGHT RUBY TM

JUST THE FACTS

Height:	16 – 18"
Spread:	18"
Shape:	Rounded
Flower:	None to Date
Fruit:	None to Date
Foliage:	Very Dark Burgundy
Zone:	4

MIDNIGHT RUBY™



- **Potentially SEEDLESS!**
- Larger foliage for a dwarf plant
- Slow grower that needs no trimming



CELEBRATION^(R) Maple

Acer x freemanii ‘Celzam’ P.P. 7279

A Lake County Nursery ‘ZAM’ Introduction

CELEBRATION_(R)

JUST THE FACTS

Height:	45 – 50'
Spread:	20 – 25'
Shape:	Compact, Upright
Flower:	Red
Fruit:	Virtually Seedless
Foliage:	Green
Zone:	4

CELEBRATION ^(R)



Don't worry...Be Happy!
I'm
SEEDLESS!
(No bunny ears)

MEDALLION™

Norway Maple



Acer platanoides ‘Medzam’

A Lake County Nursery ‘ZAM’ Introduction

MEDALLION™

JUST THE FACTS

Height:	45'
Spread:	35 – 40'
Shape:	Broad, Oval
Flower:	Yellow
Fruit:	Virtually Seedless
Foliage:	Dark Green
Zone:	4

Of Concern to Plant Breeders:

“Do we continue to invest money looking for seedless varieties of items that are already banned? Will other states look at the sound science before getting on the invasives band wagon or are they simply going to copy exactly what others are doing – i.e. a no brainer decision for them but not based on the most current information available and information specific to their state.”

2) Develop Alternatives for Existing Species

Example:

Callery Pear cultivar - *Pyrus calleryana*

- Developed by scientists at National Arboretum, NC State
- Funded by USDA & ANLA
- Triploid individuals
- Sterile in early trials

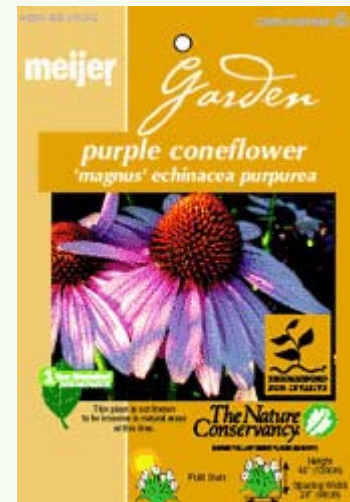


3) Address New Introductions

- Develop mutually recognized, scientifically-based list of potential invasive traits
- Variety trials that screen for invasive traits

4) Consumer Education

- Critical to nursery existence
- Nature Conservancy and Meijer
 - Educate customers through brochures, video, website
 - 16% of plants labeled as “Recommended Non-Invasive”
 - Meijer will remove Norway maple & Lombardy poplar



Summary of the Research and Nursery Partnership

- Respect and utilize expertise of both groups
- Develop trust and communication
- Educate one another
- Make decisions on scientifically-based research
- Educate the public





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