



UGA & Plant Introductions, Inc. Ornamental Plant Breeding Programs

Michael A. Dirr, Ph.D.
April 30, 2013
Tifton Turfgrass Conference

Meatballs: Out with the Old!





Azalea Meatballs: Why Oh Why?



Dirr Garden 2012





THE KEY INGREDIENT IN A **NEW** PLANT

COLOR

COLOR

COLOR

COLOR

THE REALITY

GREEN

is NOT a color

WHAT GROWERS/RETAILERS (AND GARDENERS) CITE AS ESSENTIAL IN NEW PLANTS

- ❖ Color
- ❖ Early-season flowering
- ❖ Reblooming
- ❖ Compact, uniform branching
- ❖ Fast to finish in a container
- ❖ Can be pruned to schedule flowering to hit target sales dates
- ❖ Disease and insect resistance
- ❖ Minimal chemical and physical inputs

LANDSCAPERS TOP 10 PLANTS

NURSERY MANAGEMENT 27(8), 2011

Surveyed 4,000 lawn & landscape leaders

1. Boxwood (deer resistance?)
2. Viburnum
3. Hydrangea
4. Holly
5. Spirea
6. Azalea
7. Maple
8. Juniper
9. Dogwood
10. Knock Out® Rose

DOES THE CUSTOMER KNOW WHAT'S **NEW**?

New alone without marketing is a lonely life.



UGA Horticulture Farm



PLANT INTRODUCTIONS, INC. . . THE JOURNEY TO DATE

- ❖ Started in 2007
- ❖ Breed great garden plants that offer Pro Performance™
- ❖ Equal opportunity plant breeders
- ❖ Test on-site: propagation, container culture, and in-ground
- ❖ www.plantintroductions.com









PLANT INTRODUCTIONS, INC. . . THE JOURNEY CONTINUES

- ❖ What to breed?
- ❖ Listen intently to growers, gardeners, and Bonnie. Women buy 70-80% of plants.
- ❖ Where are the opportunities in the market?
Another rose, hydrangea, azalea, abelia, crapemyrtle?
- ❖ Lilacs, heat tolerant hydrangeas, small flowering trees

Crapemyrtle breeding at PII, 2012

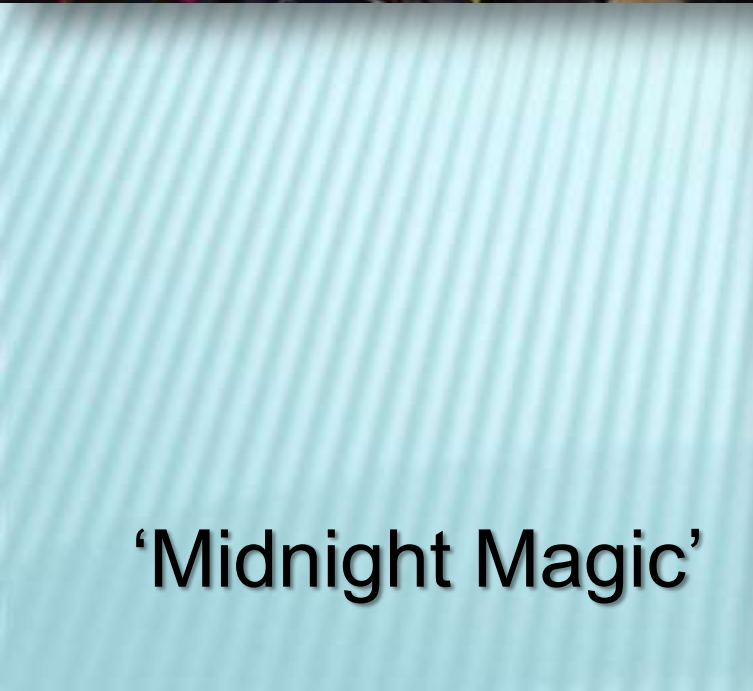


'Red Magic'
flowering 7-29-12





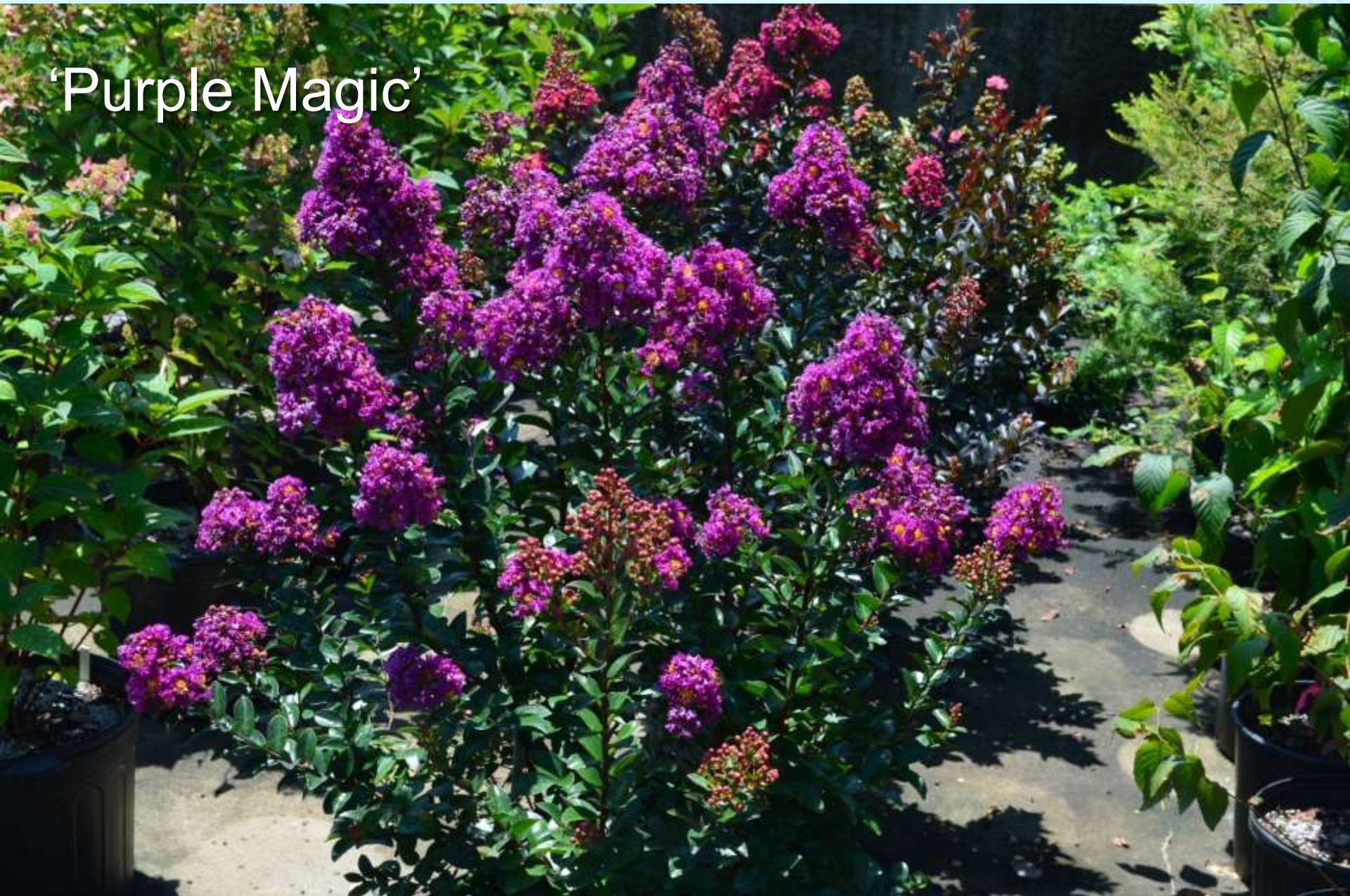
‘Moonlight Magic’



‘Midnight Magic’



'Purple Magic'



'Coral Magic'



'Plum Magic'



HOW TO SUCCESSFULLY EVALUATE A POTENTIAL INTRODUCTION

- ❖ There is no absolute methodology
- ❖ Keep timely records
- ❖ Walk the plants on a regular basis
- ❖ Compare with the competition's introductions
- ❖ PII utilizes survey tape as a measure of greatness; more ribbons, the better
- ❖ All partners love and practice gardening
- ❖ The final decision comes from the heart

Syringa: Remontant Saga

Bloomerang®

- A remontant lilac
- Did it resonate and sell? Yes!
- Is it a great plant ? ? ?
- New adaptation on the way
(Bloomerang® Dark Purple)
- Several breeders working on *Syringa*



Missouri Botanical Garden
April 25, 2010

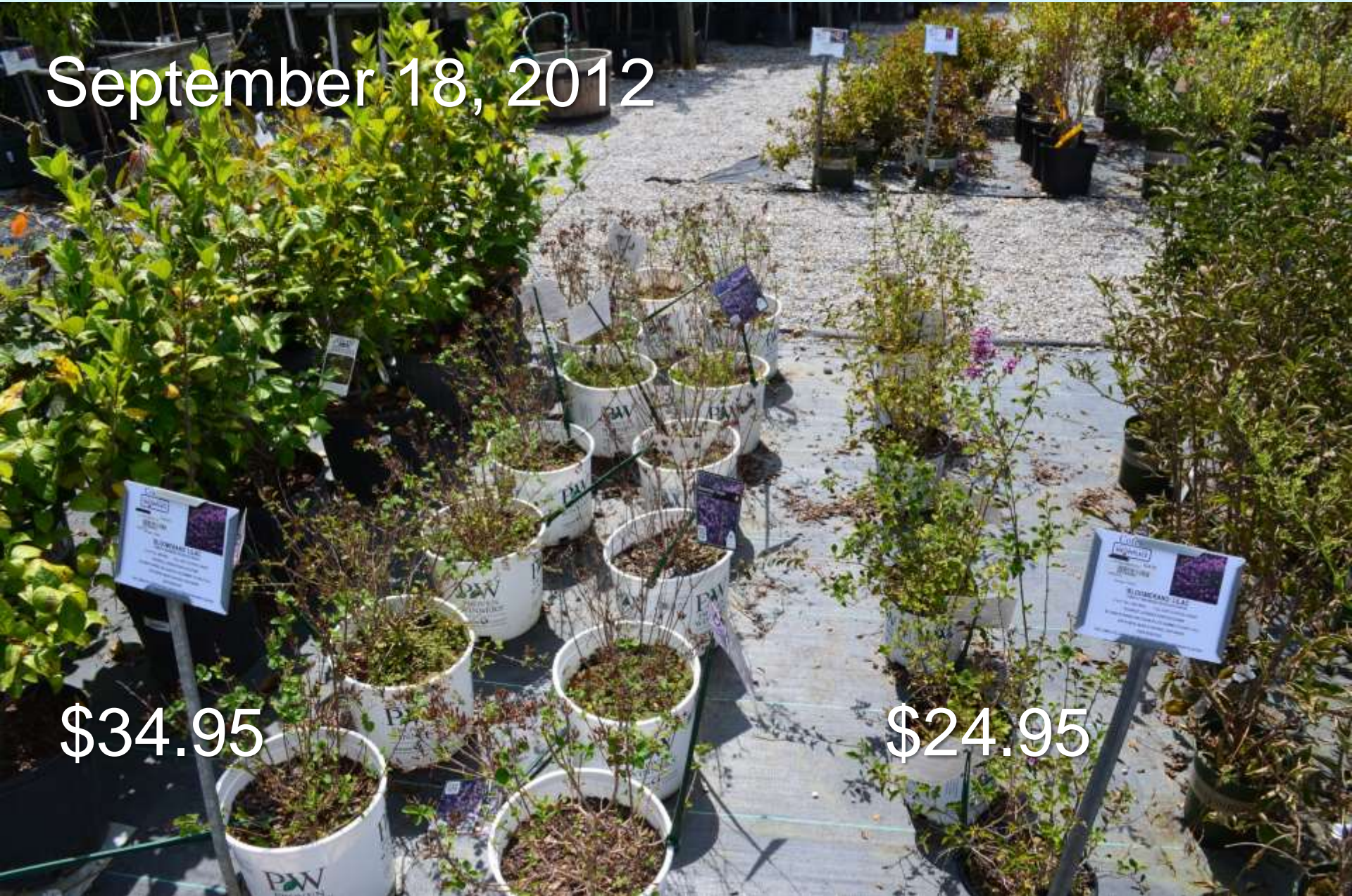
Coastal Maine
Botanical Garden
August 10, 2010



September 18, 2012

\$34.95

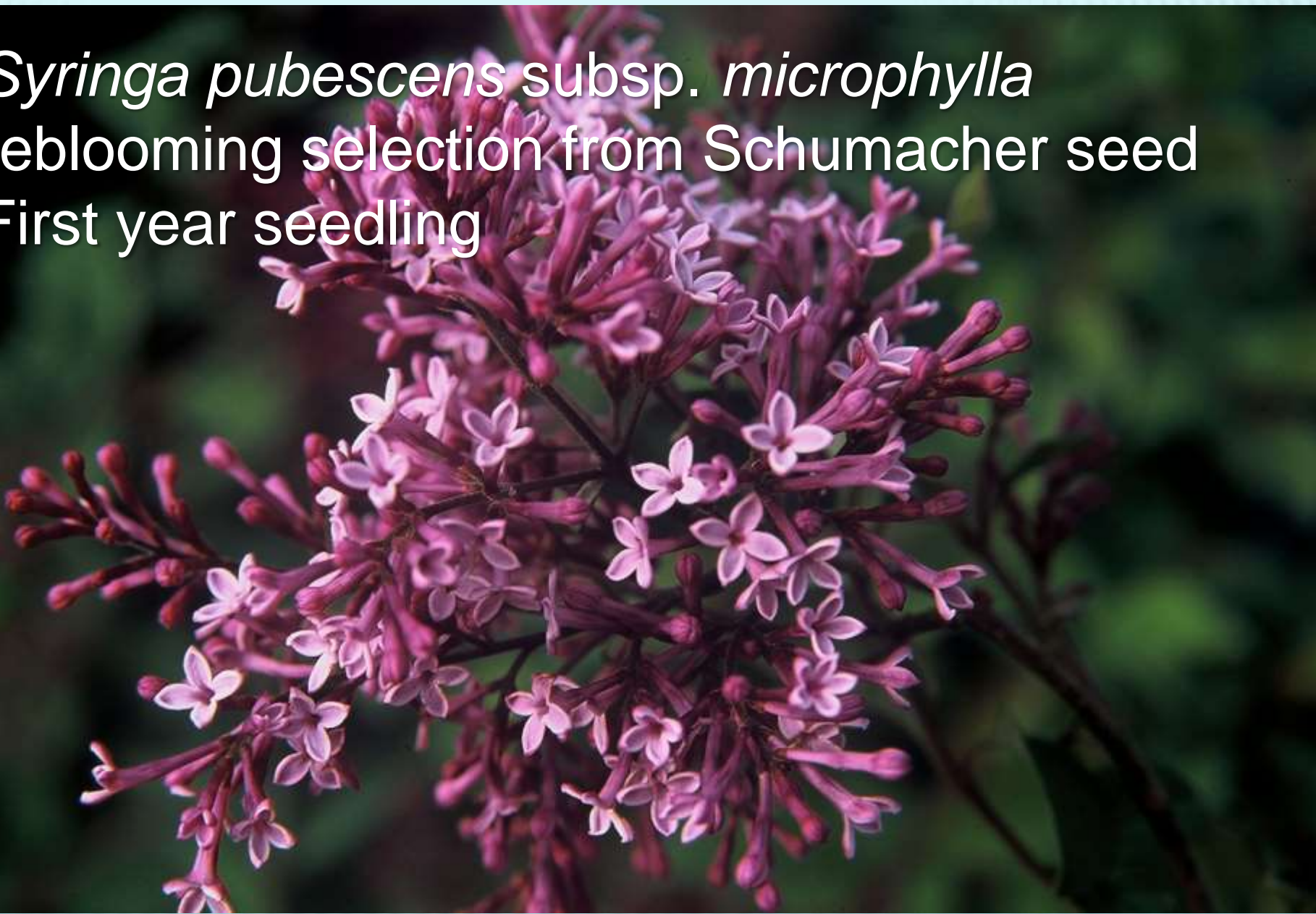
\$24.95



SYRINGA BREEDING

- ❖ Objectives: heat tolerant, reblooming, disease-free lilacs
- ❖ Literature, The International Lilac Society, lilac collections, USDA seed bank, seed companies
- ❖ Source species and cultivars with those potential traits and test *in situ*
- ❖ Open-pollinated and controlled cross breeding with appropriate parents
- ❖ Accelerated growth in containers to produce early flowering

Syringa pubescens subsp. *microphylla*
reblooming selection from Schumacher seed
First year seedling



Syringa oblata from Schumacher seed
Second year seedling



Syringa evaluations at PII
October 6, 2012





Syringa seedlings
November 2012

Syringa

'Red Pixie' x Josée™

Foliage on 1st year
seedlings



Remontant *Hydrangea macrophylla* Saga

Cold damage



Hydrangea macrophylla Endless Summer®
changed the hydrangea market forever

*Keys to success: great marketing and a worthy
plant; 1.8 million spent before first plant sold*



Bailey's

'Lady in Red'



Testing for mildew resistance



Twist-n-Shout™ and Endless Summer®
Bailey Nursery, Sauvie Island, OR, 8-24-12




Twist 'n Shout™





BloomStruck™ (Twist-n-Shout™ derivative)
Original plant. 4 years old.





Abelia 'Rose Creek' & 'Canyon Creek' received
AGM Award of Garden Merit from RHS in 2011

Currently, ~35 cultivars



Abelia Eternal Sunshine™ in First Editions®



Abelia parvifolia-03-09



Barberries gone wild.
Considered invasive.



Berberis thunbergii 'Daybreak'







'Hummingbird'

Clethra 'Roadside White' & 'Sixteen Candles'



Clethra alnifolia fall color

Clethra
'Hummingbird' × 'Ruby Spice'



DISTYLIUM SPECIES

- ❖ Common name Isu Tree
- ❖ Primarily native to Asia
- ❖ 12 species worldwide
- ❖ *Distylium racemosum* and *myricoides* the most common
- ❖ Beautiful broadleaf evergreen foliage
- ❖ Heat, drought, and wet soil tolerances
- ❖ High insect and disease resistance
- ❖ Sun and partial shade tolerance
- ❖ Easy to propagate and grow

Distylium Emerald Heights™



Distylium 'Vintage Jade'





Distylium Coppertone™



Distylium racemosum 'Butterscotch'



Gardenia cold hardy
improvements



Heaven Scent™

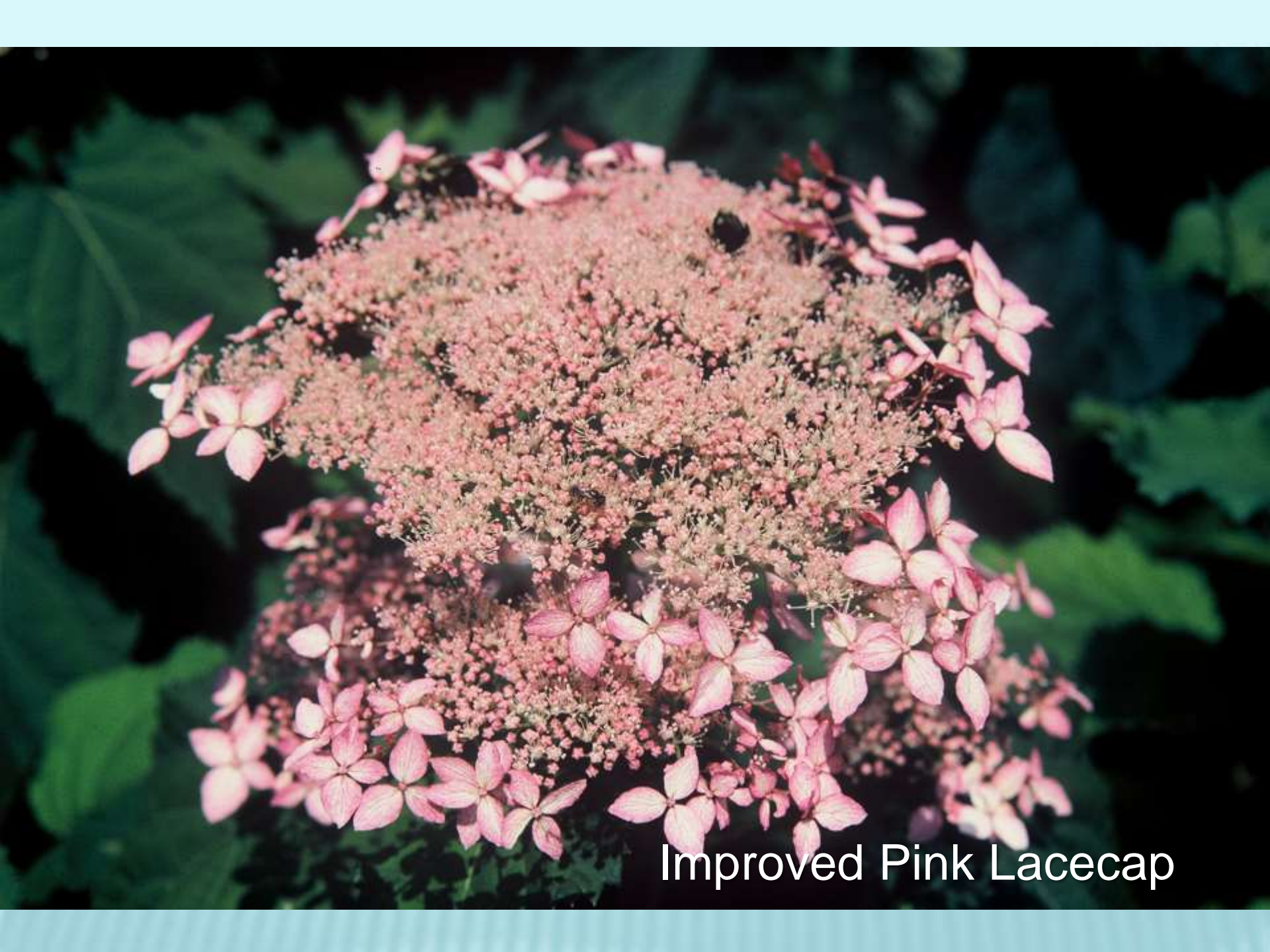


'Double Mint'



Hydrangea arborescens
species and 'Annabelle'





Improved Pink Lacecap



Bella Anna™

THE BELLA ANNA™ STORY

- ❖ PII thought we hit the mother lode
- ❖ Over 30 pink mopheads selected in 2008
- ❖ Unfortunately, ultimate selection proved to be weak-stemmed
- ❖ There are leaf spot problems
- ❖ Do we sulk? Or try to get it right?

Pink Annabelle selections 2012

06

09





Green-flowered selection





Hydrangea paniculata
'Grandiflora'



Limelight™



H. paniculata
Baby Lace™ and
selections at UGA
Late July

SMALL-STATURED *H. PANICULATA*

- ❖ Bobo® - Disaster in Dirr garden
- ❖ Little Lime™ - Excellent
- ❖ Bombshell™ - Difficult for growers
- ❖ Baby Lace™ - Excellent, late flowering

Spiraea thunbergii 'Ogon'



Spiraea thunbergii 'Ogon' first year seedlings



Viburnum plicatum f. *plicatum* 'Spellbound'





11/02/12



'Mohawk'-11-03





Viburnum Pearlific™







Vitex agnus-castus



'Matt's Blue'



'Purpurea'



In plant breeding, the journey never ends
because GOOD is the enemy of GREAT!

