



Plant Improvement in the Department of Horticulture and the Center for Applied Nursery Research

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We are cooking at UGA and the Center with many wonderful plants in various stages of evaluation. The most difficult task is reducing the thousands of seedlings to manageable numbers. The *Hydrangea* and *Lagerstroemia* seedlings show great promise. 'Lady in Red' is the first protected (patented) release from the program. The only way my program and others will stay productive is by generating royalty streams. We have been particularly blessed at Georgia with a great system that supports cultivar development. I marvel at the tidal wave of potential new plants and believe the nursery industry and consumers will be the ultimate beneficiaries. 'Tis an exciting time to be involved in plant improvement. Please visit us in Athens or at the Center for Applied Nursery Research in Dearing.

Viburnum: Conducting an evaluation of viburnums at the Center. Testing adaptability to heat and container culture.

Viburnum bitchiuense

Viburnum utile

Viburnum × *burkwoodii* 'Park Farm Hybrid' × *V. macrocephalum* f. *keteleeri*

Viburnum bitchiuense × *Viburnum* × *burkwoodii* 'Park Farm Hybrid'

Viburnum 'Mohawk', *V.* 'Eskimo', and *V.* × *juddii* - open-pollinated seedlings show significant variation

Please note flower buds and exceptional foliage on NA #69852.

Abelia: Two introductions, 'Canyon Creek' (yellow foliage, pink flowers) and 'Rose Creek' (compact habit, abundant white flowers), are now widely grown. Have another selection (#25) that is the best compact form I have witnessed. Traveled a step further with seedlings from #25 even more compact, with glossy dark green foliage. Their worthiness is yet to be determined.

Buddleia: Every year I say no more than another unique seedling appears. Seedlings of *B.* 'Violet Eyes', a 'Honeycomb' × *B. lindleyana* tribrid, segregated to produce white, raspberry-red, and lavender-purple colors. The raspberry-red seedling has foliage like *B. lindleyana*; inflorescence shape, size and fragrance like *B. davidii*. Could be a major breakthrough toward mite resistance and evergreen foliage.

Lagerstroemia: Developing compact types with excellent foliage and flower. Five are being patented from the 1998 and 1999 seedling selections. Discovered that 'Pocomoke' is a superior breeding parent and from ~2,000 seedlings in 2002 and 2003, 100 selections are being evaluated. Have a great red-flowered selection tentatively named 'Cherry Bomb'. Plan to discuss and show the amazing variation in foliage, flower and habit.

Hydrangea: ~15,000 seedlings of *H. arborescens*, *H. macrophylla*, *H. paniculata* and *H. serrata* are being or have been evaluated. Our goals for improvement include remontant (reblooming) flowering, compactness, strong stems, colorful stems, mildew resistance, lustrous leathery dark green foliage, fall color and cold hardiness. All these characteristics have appeared in the progeny, simply not in a single genotype.

In 2002 and 2003, we have made controlled crosses in the greenhouses utilizing the *best* parents for the desirable characteristics. The progeny from the 2002 crosses appear outstanding. In 2003, >2,500 crosses were made utilizing:

'Ayesha' × 'David Ramsey'	'Decatur Blue' × 'Lilacina'
'Ayesha' × 'Lilacina'	'Decatur Blue' × 'Veitchii'
'Ayesha' × 'Penny Mac'	'Oak Hill' × 'Coerulea'
'Ayesha' × 'Veitchii'	'Oak Hill' × 'Lilacina'
'David Ramsey' × 'Beaute de Vendomoise'	'Oak Hill' × 'Veitchii'
'David Ramsey' × 'Coerulea'	'Penny Mac' × 'Coerulea'
'David Ramsey' × 'Lady in Red'	'Penny Mac' × 'Lady in Red'
'David Ramsey' × 'Lilacina'	'Penny Mac' × 'Lilacina'
'David Ramsey' × 'Veitchii'	'Penny Mac' × 'Veitchii'
'Decatur Blue' × 'Coerulea'	

We will eventually back-cross the superior seedlings to the parental types to recover more of the desired characteristics, particularly remontant flowering.

Currently have targeted 11 for introduction. They are:

'Lady in Red' (Otaksa-01-01) - PPAF	Lilacina-10-02
'Mini Penny' (Penny Mac-01-02) - PPAF	Lilacina-16-02
'Blushing Bride' (Veitchii × Endless Summer-03-02)	Nigra-02-02
- still evaluating	Veitchii-05-02
Veitchii-61-01	White Wave-05-02
Veitchii-63-01	Grayswood-03-02

Hydrangea serrata var. *acuminata*: Range of sepal colors in a small seedling population. Nothing remarkable *except* a white and green striped selection that has everyone shouting WOW! Could be a virus? Bulking up for testing.

Hydrangea paniculata 'Brussels Lace' and 'Pink Diamond': Choice seedlings with strong stems, large white flowers with sepals covering fertile flowers; sepals often age to rich pink and rose.

Hydrangea arborescens: Selected one seedling out of ~3,000 from 'Eco Pink Puff' and 'Wesser Falls' with rich pink sepals and fertile flowers. Aiming for a pink 'Annabelle' type.

***Gardenia augusta* (*G. jasminoides*):** Several seedlings from 'Shooting Star' that are compact, with leathery dark green foliage, single flowers. One is upright-columnar and could serve well as a hedging plant.

***Nandina*:** Continue to evaluate dwarf seedlings from ‘Harbour Dwarf’ and ‘Gulf Stream’. Excellent foliage colors and compact growth habits.

***Nerium*:** Trying to develop cold hardiness. Utilized ‘Sugarland Red’ as maternal parent (selfed). Have one compact seedling that escaped almost unscathed by cold (~11°F).

***Rhaphiolepis*:** Have seedlings from John Barbour’s excellent ‘Snowcap’ that have remained exceptionally free of leaf spot, are compact with dark green summer foliage and bronze-purple winter color.

***Spiraea*:** Great variation in a population of ‘Candle Light’. Looking for true compactness, yellow foliage that persists and does not burn.

***Callicarpa dichotoma* ‘Issai’:** ~1,000 selfed seedlings, almost too uniform to believe, hoping for range of fruit colors, all are flowering now (late July). Nothing has jumped out as of this date.

Other wild but hopeful activities:

Cleyera japonica - true *Cleyera* - have seedling populations. All are uniform with essentially no variation.

Ilex verticillata ‘La Harve’ - compact, large red fruited selection from Nova Scotia that has thrived for 7 years in our trials. Have a seedling population at Center that hopefully will yield additional dwarf types.

Spiraea virginiana - native white flowering species that will grow in water. Supposedly does not set viable seed. I crossed it with *Spiraea* ‘Red Princess’, ‘Candle Light’ and others. Several compact seedlings (species is wild and rank growing) that may prove useful in mushy, wet areas.

The *Hydrangea* work has been exciting, educational and productive. My research technician, Vickie Waters-Oldham, and student assistant, Josh Kardos, have orchestrated everything from crosses, germination to evaluation. All of us take immense pride in the program.

The learning curve for hydrangeas has been exhilarating, almost like riding a roller coaster, but with only highs. A book was spawned from the research, reading, travel, and observations which will be published by Timber Press in spring, 2004. The book is already in the publisher’s hands. Accompanying this will be a CD with 1,000 photos of hydrangeas; the book will have 200. Timber only wanted a 100 page, 125 photo book with soft cover. When I submitted the manuscript, the estimate was 339 pages and 200 photos. ‘Tis easy to get carried away. By the way, the title is *Hydrangeas for American Gardens*.

A new DVD is available from our shop and contains the *Manual of Woody Landscape Plants*, 72 search criteria and 7,600 images on a single disk. Tremendous resource for plant selection, signage, etc with all text and photos printable.