The Gardener's Journal

Reynolda Gardens of Wake Forest University

Winter 2008

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The Story of *Hiawatha* at Reynolda

by **Camilla Wilcox**, *RGWFU curator of education*

Saturday, May 28, 1921
8:15 p.m.

Boys in Native American costumes paddle bark-covered canoes on the still water of the lake, toward an encampment on the sandy bank. The wigwams are decorated with symbols, and campfires burn nearby. Electric lights strung from trees and poles illuminate the scene from above. On the other side of the lake, members of the audience peer through binoculars to watch the actors step ashore. The first strains of orchestra music fade, and the resonant voice of the narrator can be heard in the quiet that follows, as he begins to read the familiar lines written by Henry Wadsworth Longfellow in 1855.

The pageant, postponed twice due to rain, has finally begun. The seven scenes that follow will dramatize events that began before Hiawatha's birth and ended with his departure from his people. Members of the Reynolda community and students at Reynolda School will be the actors, dancers, and singers. The grand tradition of extravagant historical pageantry and the highest aspirations of the school will blend with the landscape of the country estate on a warm spring evening.

Tales of the Hiawatha pageant have become part of the history of Reynolda. Of the stories told over the years by those who participated, only a few have been preserved among the oral histo-

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The Village entrance, c. 1925, with young London Plane trees.

London Plane Trees on the Village Square

by **Preston Stockton**, *RGWFU manager*

When I was growing up, Dad would periodically drive us through the Reynolda estate. The main things I remember were the neat little house with the green curved roof and these funny, gnarly trees with white trunks. So it is not surprising to me that we have so many children, as well as adults, ask us about the unusual, knobby trees on the Reynolda Village square.

These trees are London plane trees, *Platanus x hispanica*. They are a cross between the American sycamore, *P. occidentalis* of the eastern United States and the Oriental plane tree, *P. orientalis* of southeastern Europe and Asia. Some sources say that this cross originated in Spain or France around 1650, but others say that it is possible that it came from the Tradescant Nursery garden in Lambeth, south London. The first description of the tree in writing is from the Oxford Botanical Gardens in 1670.

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Closing a Gate Opens a New Place for Plants

by **John Kiger**, *RGWFU assistant manager*

You see it in every neighborhood—people using plant materials to create privacy or to block an undesirable view. Reynolda Gardens is no exception. Within the past few weeks, the staff has been working on the grounds at the garage parking lot. Located across from Summit School, this area is used for overflow parking, mulch and soil deliveries, and company vehicle storage. In the summer, we close it off and create space for Young Naturalists to work on special projects. Recently we added lighting, had the twenty-four foot gate removed, and replaced the gate with a new section of chain-link fence. Hoping to beautify the area further, we put pencil to paper and developed a planting plan. The development of this screen was fairly simple. We designed it with eleven different varieties of plants, with a total of thirty-five plants altogether. A description of the plants we used follows.

Ilex x 'Nellie R. Stevens', Nellie R. Stevens Holly
To create what I call the backbone, we planted four Nellie R. Stevens hollies that are approximately eight to ten feet in height. These evergreen hollies are fantastic plants to use for screening or as a simple specimen plant. They can reach a height of twenty to thirty feet, with a spread of twelve feet or more. Since they have a moderate growth rate, a typical homeowner may wish to purchase smaller containerized plants. Believe me, they will be easier to plant.

Osmanthus x fortunei, Fortune's Osmanthus or Tea-olive
This is another excellent evergreen screening plant. This drought resistant variety can reach a height of fifteen to twenty feet, with a spread of equal distance. Like the Nellie R. Stevens holly, this sun or light shade loving plant has a moderate growth rate. It has glossy green leaves and produces small clusters of highly fragrant, white flowers in the fall.

Cryptomeria japonica 'Yoshino', Japanese Cedar
This tree can reach a height of forty feet and a spread of twelve to fifteen feet. It grows fast—two to three feet per year. It is a beautiful evergreen that prefers full sun and makes a great windscreen or noise barrier.

Morella (Myrica) cerifica, Wax-myrtle
This broadleaf evergreen, which is native to eastern North Carolina, is used in the landscape as a shrub or tree. The growth rate is considered to be rapid. It reaches a height of fifteen to twenty feet, with an equal spread. Excellent for use in screening, roadside plantings, or as a stand-alone plant. Birds love this plant due to its production of berries in late summer. Only the female plants produce berries.

Chamaecyparis obtusa 'Crippsii', Hinoki Cypress
Native to southeastern Japan, this variety of *Chamaecyparis* has green and golden yellow foliage. Somewhat pyramidal in shape, it can grow to twenty feet plus in height and achieve a spread of ten to fifteen feet. Best grown in partial to full sun, it offers an added bonus of outstanding color during the winter, when other plants have entered into dormancy. One internet source I found stated it best, "Use the 'Crippsii' as a specimen that is sure to stand out like it is glowing, especially against a backdrop of typical evergreens like hollies, ligustrums, or wax-myrtles."

Hydrangea quercifolia, Oak-leaved Hydrangea
This deciduous shrub is named for its large leaves, which take on multiple colors as the seasons progress and change. Large, cone-shaped, white flowers appear in mid- to late summer. Native to the southeastern United States, this shrub requires very little attention and can be considered drought resistant once established. Growing to four to five feet in height and width, it does well in sun, with afternoon shade. This plant works extremely well as a facing shrub or specimen plant.

Viburnum awabuki 'Chindo', Chindo Viburnum
Upright evergreen with dark green, waxlike leaves that range from three to seven inches in length. This one has a rapid growth rate and reaches a height of ten to fifteen feet, with a width of eight to ten feet. Performing best in sun to part shade, the flowers appear in mid- to late spring, followed by red fruit for fall interest. Excellent for use as a clipped hedge or screening material.

Hamamelis x intermedia 'Arnold Promise' and 'Diane', Witch Hazel

Considered a small tree or shrub, this deciduous plant blooms in late winter to early spring. If left unpruned, it will reach a height of twenty feet and a spread of fifteen feet. Noted as a "rugged and carefree" plant, the cultivar 'Arnold Promise' comes alive with yellow, somewhat threadlike flowers. As a small shrub in the landscape, it can be confused with forsythia at first glance. The cultivar 'Diane' carries the same characteristics as the aforementioned with one exception—the flowers are ruby red.

Thuja occidentalis 'Emerald Green', Arborvitae
This one is very easy. Growing in a pyramidal shape, this sun lover can reach a height of ten to fifteen feet and achieve a spread of three to four feet. Somewhat compact, it requires very little pruning and makes a screening planting when spaced no more than three feet apart. I have used these in other landscapes and found them to have a rapid growth rate, from six to twelve inches per year.

Camellia sasanqua, Sasanqua Camellia

This is one of my favorites. Although they are evergreen, sasanqua camellias are generally not used as screening material, but they should be. They are most often used as specimen plants. The glossy green leaves and beautiful fall flowers make this plant a must-have in any garden scene. Growing to a height of four to twelve feet, they may be used in either sun or shade and require very little care. I have seen some that were a few feet taller but were limbed up to create a tree form. There are a great many varieties of these plants, and all vary in shape, size, and flower color, so if you wish to use one in your landscape, you may need to do a little research to find out which one would be best for you.

Cornus Kousa 'Milky Way,' Chinese Dogwood
A touch of elegance. This is truly a very landscape-worthy tree. Deciduous, with a bushy, broad form, it reaches a height of fifteen to twenty-five feet and achieves equal spread. It flowers in late spring after our native dogwood, *C. florida* and has two to four inch, brilliant white flowers that seem to be layered all throughout the tree. In the fall, it bears large, dull red, fleshy fruits.

As you can see, not all selections in the new planting are evergreen. We feel that an effective screen doesn't necessarily have to obstruct one's view totally. By placing and mixing deciduous materials with evergreens, what can be a monotonous view is broken up. Quite often you see people creating a screen to add privacy to their homes by using Leyland cypress, *x Cupressocyparis leylandii*, which, in my opinion, is overused today. Don't get me wrong—they will screen an area very rapidly, but using two or three, along with other broadleaf evergreen plantings and some deciduous materials, makes for a much more appealing scene.

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Gardening in a Drought

by **Michelle Hawks**, *RGWFU horticulturist*

Last year's long, hot summer took a toll on the entire staff here at Reynolda Gardens. Like everyone else, we had to find ways to reduce the amount of water used in the garden. One of the best ways all of us can help conserve water is to plant a drought tolerant garden. This means growing less thirsty plants and getting into good habits that help prevent your garden from drying out in the hot summer months.

The idea of drought tolerant plantings may not sound appealing at first, but, if you pick the right plants, you can easily make a garden that is not only stunning to look at but is also really easy to maintain—perfect for gardeners who don't have a lot of time for watering. And it doesn't cost any more than using more traditional, water dependent plants. You will need to give up some of your thirstier plants, such as dahlias, impatiens, and begonias, and cut down on the number of bedding plants and hanging baskets you use, but you'll be surprised at the wide variety of plants and gardening styles you can have and still save water. An added bonus is that plants that resist moisture loss often have hairy, leathery, or dense foliage that doesn't make for easy snacking. Pests, from deer to aphids to slugs, tend to prefer tender greens that are more easily penetrated.

Compost and Mulch

Drought tolerant plants are not heavy feeders, and they tend to prefer compost over fertilizers. Compost breaks down in a natural and gradual manner that increases the organic matter in the soil. This increased humus level improves water percolation and soil structure. Fertilizers can damage tender feeder roots in plants with low water needs, causing them to have a withered or dry appearance. When fertilizers are not washed into the soil, they leave a residue of salt on the dry surface. This residue washes into waterways during heavy rainfalls, polluting our streams.

Drought tolerant plants are easy to please with an annual mulching program. This makes them more independent and less needy when life gets complicated. One of the big reasons to mulch your garden is to stop evaporation. Evaporation occurs during the hottest months but also throughout the entire year. During the hottest months, it's quite possible to have more water evaporate from your garden than you're actually applying to it. Mulching will slow down the evaporation process and allow the plants to retain moisture. Mulching also helps keep weeds to a minimum. The heat and density of the mulch will slow down weeds from germinating and also prevent weed seeds from penetrating the soil.

Containers

Container gardening presents its own set of challenges, among them more stressful growing conditions. As it holds only a limited amount of soil, a container restricts the amount of room that roots can spread, dries out faster, and has a higher soil temperature.

Consider where you're placing your containers. For example, a spot in the sun can be twenty degrees hotter than a nearby spot in the shade, so put your most drought tolerant plants in the most exposed part of the garden. Choose plants with similar requirements. You can reduce water waste and improve your plants' health, since each will receive what it needs; no more, no less.

Use a potting mix that's quick-draining, water retentive, and nutrient rich. Consider adding an organic soil conditioner to your mix. Water retaining granules (hydrogel) hold several hundred times their weight in water and release it gradually to the plants' roots; one teaspoon of granules absorbs one quart of water. Containers of hydrogel are available at local nurseries and should be added to the soil before planting.

Choosing Plants

Drought tolerant plants are exciting, a tad unpredictable, and incredibly diverse. Given their bold color and textures, you can use them as key design elements in your garden.

Silvery foliage

Plants with grey or silver foliage, such as silver mound, *Artemesia schmidtiana* and dusty miller, *Senecio cineraria* have drought resistant qualities.

Herbs

Mediterranean herbs such as thyme, *Thymus* sp.; oregano, *Oreganum* sp.; chives, *Allium schoenoprasum*; and bronze fennel, *Foeniculum vulgare*, as well as the India native lemon grass, *Cymbopogon flexuosus* add an exotic and alluring touch to any garden and to your cooking. Rosemary, *Rosmarinus* sp. is both culinary and medicinal, and its flowers attract bees and butterflies. Lavender, *Lavandula* sp. grows up to three or four feet high. It has showy flowers and is perfect for every garden. These plants like full sun and well drained soil.

Summer flowering perennials

Providing additional color and interest when other spring flowering plants may be dying down, most summer flowering perennials begin blooming in June and last throughout the fall. They are delightful additions to a garden, giving a brilliant color display with low maintenance. There are many from which to choose, but two of my favorites are daylilies, *Hemerocallis* sp. and German iris, *Iris germanica*. With many different varieties available and varying bloom times, daylilies make bright color displays in mid- to late summer. They grow well in full sun to partial shade. Irises usually flower during the first part of the summer. They make great cut flowers, adding a very delicate touch to an arrangement.

Ornamental grasses

All grasses have a natural simplicity and blend beautifully into the landscape. The variety of grasses cultivated for home gardens is ever increasing through hybridizing. You are probably already familiar with pampas grass, *Cortaderia selloans*, but don't overlook the fountain grass, *Pennisetum* sp.; maiden grass, *Miscanthus gracillimus*; zebra grass, *M. sinensis* 'Zebrinus'; muhly grass, *Muhlenbergia capillaries*; and many other varieties. Most grasses will grow in areas where other plants will not survive. There is no "maintenance free" plant, but ornamental grasses come pretty close.

Groundcovers

Spreading plants such as ivy, *Hedera helix* and lamb's ear, *Stachys lanata* can be important additions to drought tolerant gardens. They act as living mulch, helping to conserve moisture around trees and shrubs. Many groundcovers are evergreen, so they add beauty to the garden in every season. Some bloom and produce berries. Periwinkle, *Vinca minor* is perfect for those dry, shady areas that are difficult to fill, with its evergreen foliage and cheerful blue flowers. Wooly thyme, *Thymus praecox* has no scent or flavor, but, with its spreading habit, it makes a very attractive, soft carpet of hairy, grayish foliage. It is topped by bright pink flowers in summer.

A Few More Plants for Easy Summer Gardening

From early spring to fall we all are busy spending time with our family and friends. We might like to just sit on the porch reading a great book or play a round of golf. The last thing we want to do is come home and have to water flowerbeds and containers. In addition to those just mentioned, here are a few more plants I use in my own garden and in containers. They have proven to be the most consistently drought tolerant plants.

At the top of my list are native plants, such as Joe-Pye weed, *Eupatorium maculatum*; bee balm, *Monarda didyma*; cardinal flower, *Lobelia cardinalis;* and evening primrose, *Oenothera* sp.

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Children Benefit from Contact with Nature in Ways That Cannot Be Calculated

by **David Bare**, *RGWFU greenhouse manager*

"Video Game Killing the Nature Boy, Research Says," read the headline in the *Winston-Salem Journal* on Wednesday, February 6, 2008. It was the latest in a string of stories that have called our attention to the decline of "contact with nature." This article cited the *Proceedings of the National Academy of Sciences* online edition of the preceding day. The authors, Oliver R. Pergams and Patricia A. Zaradic, studied the decline of visitation to national parks in the U. S., Japan, and Spain, as well as studying the number of fishing and hunting licenses issued and time spent hiking, backpacking, and camping. The authors concluded there had been an eighteen to twenty-five percent decline over the period 1981 to 1991. The long and short of it is summarized in the conclusion, "All major lines of evidence point to an ongoing and fundamental shift away from nature-based recreation." It is a story we have heard again and again, and it may be the greatest environmental catastrophe of our time. How long will it be before we read, "Species Loss Directly Related to Apathy"?

In our little woodland and our gardens and greenhouse here at Reynolda, we still take children by the hand and introduce them to the green world in which they live. Staff and volunteers point to how a potato forms beneath the soil, a wren lines its nest with the long fibers of sphagnum moss, a black swallowtail caterpillar feeds on the fennel. It is the simplest of tasks, but its value is difficult to quantify.

"Environmentally responsible behavior results from direct contact with the environment, and people must be exposed to natural areas as children if they are to care about them as adults," the study said.

What we understand, we love and respect; what we don't know, we fear. What we fear, we destroy. We see this often in the school children who make their way to us on field trips. They are unfamiliar with the environment, and there are those who are genuinely frightened by things. Not just insects and animals but plants and dirt, the very things my boyhood was made of.

At Reynolda Gardens, we are hardly in a position to restore the kind of communion with the natural world that the authors of "Evidence for a Fundamental Change and Pervasive Shift Away from Nature-based Recreation" are alluding to, but I want to make the case for tiny inroads. In a world where we are daily confronted with environmental challenges on the scale of global warming, it is sometimes difficult not to be overwhelmed.

I think we meet this challenge by leading our children into experiencing the natural world. I also think that the hands-on, participatory relationship that begins with gardening is a wonderful and accessible introduction into the broader natural world. Little Jimmy and his class of second graders may be the very ones to solve the global climate crisis, but chances are they won't. That doesn't mean that he can't be exposed to the small wonders that are happening at his feet. Nor can the consequences of that exposure be calculated. I have no illusions that every child who passes through the greenhouse door is going to get on the bus fully enlightened about the wonders of nature. Still I am just as sure that some of these kids really "get it." They come in handling plants timidly and leave with a great deal of confidence. Every once in a while you see one who is awestruck, who goes home with wonder in his eyes, and you feel like you really did something.

In the summer, during Young Naturalists camp, we get a few kids who just aren't going to experience the natural world any other way. They are inner city kids who are here on scholarships, or they are kids who don't have a parent or responsible adult who is going to lead them in that direction. I sometimes ask the kids if they get out into other woods or gardens, and the answer is often that there is an aunt or a grandparent they visit who has a garden or land where they can roam. Occasionally the answer is just, "No." To these kids Reynolda may as well be the High Sierra.

EDUCATION VOLUNTEER JIM NOTTKE AND STUDENTS DISCUSS TROPICAL PLANTS.

Sometimes the stories are heartwrenching. One little girl told me that her mother told her not to play in the woods because there was a man down there who had committed some unspeakable acts, though that is not exactly how she put it. I was particularly moved by her story because I could see in her that "sense of wonder" that Rachel Carson once spoke about. She had embraced the natural world with her heart and her imagination, and you could see that fascination beginning to germinate in her.

Nature's Power to Direct and Heal

Much recent research has pointed towards the links between video games, attention deficit disorder, and the coincidental decline in nature-based activity among children. Author Richard Louv coined the term "nature deficit disorder" and drew the lines to childhood obesity, attention disorders, and depression among children in his book, *Last Child in the Woods*. In the Pergams and Zaradic study the term videophilia is used. If the evidence for new disorders lies in new terms working their way into the lexicon, then the truth is in the language.

I am in no position to argue how childhood disorders develop, though the evidence is at least plausible. On NPR's "Science Friday" over the holiday, three guests, Bernie Krause, a bio-acoustician and CEO and President of Wild Sanctuary; Frans Lanting, a wildlife photographer and contributor to National Geographic; and Alan Rabinowitz, Director for Science and Exploration of the Wildlife Conservation Society, spoke about their experiences in wild places. All three had taken untraditional paths to get where they were, and two of them had started life with learning disorders.

Krause said he had severe attention deficit hyperactivity disorder (ADHD) and couldn't concentrate on anything, but his exposure to nature calmed him down, made him peaceful, and changed his life. "All these things happen when you get out in the natural world and allow yourself to become immersed in it," he said. "It has an impact on how you see yourself."

Rabinowitz was a severe stutterer and was put in a class with students with dyslexia and ADHD, "what the other kids called the retarded class," he said, until he was in sixth grade. But when he was with animals he could speak without stuttering. "I sought out the little wild places because I didn't have to talk, so I got my voice back through animals and through the wild."

Another NPR piece focused on the Walden Project in Vermont, an alternative program focused on environmental studies and on the teachings of Thoreau. Two to three days a week students are focused on exploring their relationship to self, to culture, and to the natural world in classes taught entirely outdoors. One of the surprising effects of the experience on these high school kids was the absence of "the social games that make high school such a pressure cooker." Jennie Johnson, a senior in the program, was quoted. "Like, Joe and I would never have talked last year, and now we're really good friends. He was a cool kid, I guess, and I wasn't. We talk all the time and it's nice."

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HORTICULTURIST MICHELLE HAWKS HELPS A YOUNG NATURALIST HARVEST POTATOES.

Honoraria
In Honor of Forrest Allred
Dr. and Mrs. S. Clay Williams, Jr.

In Honor of David Bare
British Woods Garden Club
Flower Lore Garden Club

In Honor of Jim Nottke
First Grade Classes, South Fork School

In Honor of Preston Stockton
Flower Lore Garden Club

Memorials
In Memory of Eleanor Booke
Estella and John Surratt

In Memory of Vicki Dallas
Ms. Jane Logan Rogers

In Memory of J. Robert Elster
Estella and John Surratt

In Memory of Brian Fulton
Ms. Jane Logan Rogers

In Memory of Sandy Fulton
Ms. Jane Logan Rogers

In Memory of Dr. David Hills
Mrs. Rupert W. Bagby

In Memory of Andrea Logan Rogers
Ms. Jane Logan Rogers

In Memory of Nancy D. Sherk
Judge A. Lincoln Sherk

In Memory of Robert G. Stockton
Forest Garden Club
Mr. and Mrs. Larry M. Martin

In Memory of Dr. Anne W. S. Tillett
Sandor Teszler Library, Wofford College

In Memory of L. Ray Troxell
Mr. and Mrs. David E. Brenner
Sally Larson Harper
Warren and Susan Jones
Ms. Bettie Morris
Dalton D. Ruffin

Restricted Gifts
Nancy Johnson Rose Garden
Mr. James E. Johnson, Jr.

Scholarship for Young Naturalists
Book Club Anon (1)
JoAnn and Bryan Yates (2)

Matching Gifts
Exxon/Mobil
R. J. Reynolds, Inc.
RMIC
Wachovia
Winston-Salem Foundation

Volunteers who assisted with educational programs, sales, and garden maintenance 2006-07

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Kay Bergey
Elizabeth Berry
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Linda Bryant
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Hayden Tedder
Lauren Tickle
Amy Verner
Nancy Watkins
Winston-Salem Rose Society
Bill Wise
Ying Zhang

The Story of *Hiawatha*

Continued from page 1

ries in the Reynolda archives. Those who attended the event have added their recollections to the collective memory, and all of these stories have been re-told countless times. But the event left little mark on the landscape. People walking along the nature trail near the Boathouse pass the "natural amphitheater" where the audience sat. With the succession of the lakebed to a wetland, they would find it hard to imagine looking across open water from there to see anything, much less a pageant on the scale of Hiawatha. The beach where the Warriors alighted was engulfed in plant life long ago, leaving no visible trace of the grassy field and orchard where the pageant was staged. There are no costumes or props to examine. Little is left of the pageant except the stories, accounts that appeared in the newspaper in the days preceding and following, a few pictures taken during rehearsal, and a few copies of a leather-bound photo album held in the Reynolda archives and a private collection.

A Mysterious Book is Left at a Library in Maine

Last year, we received an e-mail from Laurel Parker, a librarian at the Windham (Maine) Public Library, concerning a book that had been received as a donation. It had been classified as unclaimed property by a moving company, and nothing was known about the original owner. Ms. Parker described the aforementioned album exactly: it was large—twelve inches tall by twenty inches wide, and two inches thick—and covered with suede-like, tan leather. The spine was fastened with heavy screws. The name Hiawatha was embossed in gold on the cover. Next to the name was a color photograph of a boy in full Native American costume, looking out over a lake. Inside, the title page read, "Hiawatha, The Indian Passion Play. Presented by The Reynolda School and Community. May 25, 1921." Pages listed the directors and managers, the cast of characters, selections from the poem, and some words of introduction. Ms. Parker and members of The Friends of Windham Library recognized that this extraordinary object would be a valuable historical document to someone, and they set about trying to find out who it might be. When she reached me after a web search, I explained the significance of this book to Reynolda history; subsequently, the Friends group donated the book to RGWFU, and I began to try to piece together the story of the Hiawatha play.

This photograph, which was not part of the album and was apparently taken during a dress rehearsal, adds further information on the staging of this event. It is difficult to see here, but I'll describe what I've learned by examining it. Most of the children, all of whom are white, are wearing dark make-up. The girls are wearing dolls in wraps on their backs; they are turned to the side or facing away from the photographer to display them. The boys' headdresses vary, from one feather and a band to full feather headdress. There are several tomahawks and a war club. A few of the actors are wearing plaid blankets. Some are barefoot and others are wearing high-topped athletic shoes. Two of the boys on the front row are rakishly posed with their peace pipes. The method of lighting is clearly visible—a series of shaded electric lights are strung above the scene. A few folding chairs are placed under the only shade tree.

The audience was seated on Sunset Hill, which is the name given the hillside below the house, and they viewed the pageant taking place on the other side of the lake. Although this seems to be a long way, we can see on this portion of the 1925 Ellerbe drawing that this was the narrowest point. Note the location of the apple orchard.

The Album and Photographs

In the album, each picture is hand mounted onto a single page, and each page is separated by a flyleaf. Costumed performers, both children and adults, are shown acting out lines from the poem, which appear as captions below most of the pictures. The scenes are staged as the audience would have seen them: the warring tribes called together to make peace; Hiawatha as a child and as a man; the wooing of Minnehaha and her later death; the arrival of the priest; and the departure of Hiawatha.

The color photograph on the front is signed, The Holladay Company. The other pictures are not signed, but this company probably produced the album. Based in Durham, N.C., it was known for civic and event photography. Holladay pictures in other collections were taken from dramatic angles, such as rooftops. In this collection, several were shot from the water, a few yards from the bank. Each scene is comprised of several photographs, sometimes with only slight variations. Although all appear to be carefully and painstakingly posed, there are some charming errors: one frame includes a camera and tripod; another shows automobiles parked just outside the center of the action.

The list of participants is too long to include here, but many of the students' surnames, such as Hanes, Gray, Lybrook, Liipfert, and Orr, are still familiar in the city. Mr. and Mrs. Reynolds' daughter Mary starred in the central role of Minnehaha. Her sister, Nancy, was both a Wind Phantom and a Spirit of Spring. Her brother Smith was a Warrior. Other participants, whose names are perhaps less well known today, were workers on the estate and their children, many of whom were students at the school. The estate electrician, R. L. Gibson, played a prominent role and was listed along with the music, dance, and dramatic directors, and the costume designers. His daughter, Nadeina, was a Firefly. Three members of the Yow family, presumably related to Y. S. Yow, the Reynolda shepherd, appeared in the play. Carl and Elmer were Warriors. Joseph had the major role of Black Robe.

The Pageant and its Time

Pageants were at their height during the period immediately before and after World War I. Some were created to help unite communities by focusing on their common history; others, to express aspirations for the future. Many, like Hiawatha, were prepared by schools to close the academic year. These pageants often included one or both of these elements and were the culmination of the studies for the year. Of course, school pageants were not usually on the scale of this one. According to the review that appeared in the *Winston-Salem Journal* on Sunday, May 29, it was an extraordinary event by any definition.

> The presentation of the Indian Passion Play, "Hiawatha" on the lake at Reynolda last night by the Reynolda school and community was largely (sic) attended and proved one of the most beautiful outdoor events in the history of Winston-Salem. The natural beauty of the surroundings, the perfect night, the splendid work of the performers combined to make the evening one of genuine pleasure to all.
>
> The lines of the play were read by Dr. George McKie, and the various scenes were acted in pantomime, many being unusually beautiful and impressive. A beautiful musical program also added to the performance.

The reader, as listed on the program, was to have been C. O. McMichael, a local attorney, but the substitution of Dr. McKie hints at aspirations for the production going far beyond what might have been expected, even of the Reynolda School and community. Dr. McKie was a member of the faculty of the UNC-Chapel Hill drama department, which was known for writing and directing pageants throughout the United States.*

THE GIRLS ARE WEARING DARK WINGS AND DRESSES AS THEY PERFORM THE INTERPRETATION OF FIREFLIES. A CHORUS SANG *FIREFLIES* BY MRS. BESSIE M. WHITELEY. THE CAPTIONS BELOW THE TWO VIEWS OF THIS SCENE ARE TAKEN FROM THE VERSES FROM HIAWATHA'S CHILDHOOD. THE CAPTIONS ARE IN ITALICS, WITH PARTS OF THE STANZA INCLUDED FOR CONTEXT.

AT THE DOOR ON SUMMER EVENINGS
SAT THE LITTLE HIAWATHA;…
SAW THE FIRE-FLY, WAH-WAH-TAYSEE,
FLITTING THROUGH THE DUSK OF EVENING,
WITH THE TWINKLE OF ITS CANDLE
LIGHTING UP THE BRAKES AND BUSHES,
AND HE SANG THE SONG NOKOMIS TAUGHT HIM:...
LITTLE, FLITTING, WHITE-FIRE INSECT
LITTLE, DANCING, WHITE-FIRE CREATURE,
LIGHT ME WITH YOUR LITTLE CANDLE,
ERE UPON MY BED I LAY ME,
ERE IN SLEEP I CLOSE MY EYELIDS!"

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The Story of *Hiawatha*

Continued from page 9

The music, which made such an impression on the newspaper writer, was extraordinary, as well. The score was chosen from the work of prominent American composers who, through extensive research, had adapted the songs of Native Americans and produced work that proved to be popular at the time and beloved by generations of musicians. Perhaps the best known of these pieces are *From the Land of Sky Blue Water* by Charles Wakefield Cadman, *By The Shores of Gitche Gumee* by Mrs. Bessie M. Whiteley, and *My Bark Canoe* by Frederick Russell Burton.

In keeping with pageant fashion of the time, there were numerous dance interludes in the modern style of Isadora Duncan. These expressive dances, all performed by girls, illustrated concepts related to the story. When the dancers played the part of Fireflies, their dresses were plain, but, when they played Spirits of Spring, they were festooned with daisies. For this happy dance, the girls wore daisy wreaths in their hair and carried baskets of flowers. As Wind Phantoms, they held large globes and moved them in patterns through the air. When they played Gloomy Guests, who were present at the death of Minnehaha, their costumes were plain and their movements somber.

Although there were many unusual elements to the production, it was, at its heart, a school play. The manager of the pageant was listed as C. M. Campbell, Jr. He had been the superintendent of Reynolda School for a year, having taken the place of the former head, J. Edward Johnston. The dance directors, costumers, and other assistants listed in the program are all believed to have been members of the Reynolda School faculty.

F. E. Moore, of Middletown, Ohio, adapted the Hiawatha story for pageant production. I was unable to find out more about any of his other work but gained some insight into the intent of the program through his introduction to the album.

> As a means of presenting the legend, myths and customs of North American Indians in concrete dramatic form, Longfellow's Song of Hiawatha has been chosen. In some instances it has been found expedient to condense the form of that used, but in no case has any change been made in the original poem, so that Hiawatha as presented here is an authentic reproduction of Indian Folk Lore.

Epilogue

Two weeks after the pageant, five hundred people were invited to a garden party at Reynolda. It rained that day, but the party was moved indoors. Visitors spread out through the house, and, by all accounts, it was a festive time. A few days later, with no prior public announcement, Katharine Smith Reynolds and J. Edward Johnston were married in the Reception Hall of her home at Reynolda, surrounded by family and a few close friends.

* Harvard-educated Frederick Henry Koch was the head of the drama department at UNC-CH. Members of Koch's Bureau of Community Drama, based at the university, were well known during the pageant craze but became less prominent after it began to fade; nevertheless, two of their pageants survived changes of theater fashion and became part of the summer experience for many North Carolinians and other tourists—*The Lost Colony* and *Horn in the West*.

The apple orchard, c. 1925, where the pageant was staged. Note the sandy beach on the left side.

Questions Awaiting Answers

- The make-up of the orchestra is one of the intriguing questions left to be answered. There is a Davis Orchestra listed on the playbill and in the newspaper accounts, but there is no further description of it. There was a Society Orchestra by that name performing at that time. This was not a permanent orchestra but an organization that sent musicians to very special social events around the country. A Davis Orchestra played at the inauguration of President Warren G. Harding in 1921.
- Only a handful of these albums are known to exist. Since the play was open to the public at no charge, it's doubtful that everyone who attended received a copy. According to the newspaper, "Handsome programs have been printed of the play carrying a comprehensive summary of the play." We don't know if this is the program to which the writer referred, or if there might have been another one for general distribution.
- And the most puzzling question of all: How in the world did this book end up in Maine?!

For the story of Hiawatha, there could have been no more fitting location than the banks of Lake Katharine. An announcement in the newspaper invited people to come prepared for the event. "Those who attend are advised to bring sofa pillows and lap robes as the spectators will arrange themselves on the hill overlooking the scene where the play will be rendered." It is easy to imagine being in the audience, in the "natural amphitheater" of Sunset Hill below the family home, hearing the opening strains of the orchestra, followed by the resonant voice of Dr. McKie, as he begins the presentation by reading these lines from the poem, printed in their entirety in the pageant book.

Hiawatha

Ye who love the haunts of nature,
Love the sunshine of the meadow,
Love the shadow of the forest,
Love the wind among the branches,
And the rain-shower and the snow-storm,
And the rushing of great rivers
Through their palisades of pine trees,
Listen to these wild traditions,
To this song of Hiawatha!
Ye who love a nation's legends,
Love the ballads of a people,
That like voices from afar off
Call to us to pause and listen,
Speak in tones so plain and childlike
Scarcely can the ear distinguish
Whether they are sung or spoken;—
Listen to this Indian Legend,
To this song of Hiawatha!
Ye whose hearts are fresh and simple,
Who have faith in God and nature,
Who believe that in all ages
Every human heart is human,
That even in savage bosoms
There are longings, yearnings, strivings,
For the good they comprehend not,
That the feeble hands and helpless,
Groping blindly in the darkness
Touch God's right hand in that darkness,
And are lifted up and strengthened,—
Listen to this simple story,—
To this Song of Hiawatha!

Children Benefit From Contact With Nature in Ways That Cannot be Calculated

Continued from page 7

Such experiences are testimonials to nature's power to heal and direct us. Whether we can apply such stories as evidence of our own good work is questionable. We cannot quantify the effect of the small experience that kids share with us in exploring the woods and gardens. I believe the effect finds its way in methods that are incalculable and amorphous. It finds its way into our lives in ways we cannot easily measure. It doesn't show up on the test.

The Young Naturalists program doesn't need any kudos; it speaks for itself. It quickly sells out. Several kids who have gone through the program have returned to become instructors. Over the nearly nine years since Camilla began the program, close to four hundred kids, led by volunteer instructors, have traveled through the woods and gardens and have explored everything from potato digging to the larvae of damselflies. Thousands of children have traveled through one of the programs devised as school field trips. Whether we have them for the few hours that a school trip allows or the week of half-days that Young Naturalists involves, neither seems like quite enough time, but in today's world where time is counted in nanoseconds, we are happy to get them between school; dance; piano; Boy and Girl Scouts; hockey; and ballet.

Still, recent trends indicate we might not be seeing them at all. A February 11 article in *Newsweek* magazine points to the decline of school field trips resulting from the 'No Child Left Behind' policy. Curriculums have tightened, and teachers fear the sanctions that may be imposed on them if students do not perform well on standardized tests. As a result school field trip visitation has dropped by more than a quarter at Boston's New England Aquarium and at Mystic Seaport, a maritime museum on the Connecticut coast. Rising fuel costs are another factor.

So the odds seem against us, and the results can't be computed, at least not on a traditional scale. It's not the stuff that can easily be fleshed out in grant proposals. It is an issue that envelops ethical and cultural development as well as educational growth. We have to proceed with the faith that we believe what we are doing is right and valuable and will make a difference.

Lovely Lilies—Science & Lore Part 2

"But Shakespeare also says, 'tis very silly to gild refined gold, or paint the lily'." –Lord Byron

by **Diane Wise**, *RGWFU head horticulturist*

In this issue, we will discuss the specifics of selecting and growing lilies. If any of you didn't read the last *Journal*, shame on you! Go, dig it out, and read it. If you don't have it, you can look on the RGWFU website. My article was all about lilies in general, and, without it, I'm afraid this one won't make much sense. Did you do it? Good. Now I can share the information you need to plant and raise your lilies. So let's get on with it! Since lilies are, ideally, ordered in the spring and shipped and planted in the fall, you still have plenty of time to think about your order and the bulbs that you want to include. And while you wait for them to arrive, you can begin to plan and prepare your beds.

Buying

Now that it is time to buy your bulbs, try to remember a few very important things. First, only deal with a reputable bulb company; you want to be sure that your Madonna lily really is a Madonna lily. Second, and you probably don't want to hear this, do not try to save money when buying lilies. Unfortunately, price is a pretty good indicator of bulb quality. Lilies, or all scaly bulbs for that matter, never go truly dormant. As the bulb does not have the outer protective covering of the tunicate bulb, the exposed scales are easily damaged and subject to drying out. Consequently, lilies tend to be very expensive, as they must be handled carefully and shipped quickly. If possible, stick with American grown bulbs, since they spend the least time in transport. Third, buy the largest bulbs that you can afford. The fleshier the scales on any given bulb, the more food it has stored to feed it during the growing season. Fourth, timing is everything with bulbs. Order your lilies so that they arrive for fall planting—most companies ship the bulbs in late September to early October. Plant them immediately upon arrival. The less time the bulbs spend out of the soil, the better. Early spring planting is possible, but results are just not as good. Fall planting allows the bulb to develop a good root system before it emerges from the soil. Madonna lily, *Lilium candidum* is the only exception; they should be planted in August or September.

Planting

Okay, your bulbs have arrived, and it's time to plant them. If you keep in mind just a couple of things, you'll grow the best lilies in town. Remember that lilies like cool roots and protection for their spring shoots. Most lilies benefit from a ground cover, such as periwinkle, *Vinca minor*; creeping phlox, *Phlox procumbens*; or candytuft, *Iberis sempervirens*. Mulch will also help keep their roots cool. Try to avoid areas with really thick perennials or shrubs, as your lilies may be crowded out or will grow at an angle rather than with a straight flower stalk. Lilies also like wind protection, so don't plant at the top of a hill. Staking of particularly tall varieties can be avoided by planting your lilies among shrubs and grasses or along a fence for support. Lilies like well-drained soil; the bulbs will rot if allowed to sit in water. A slope, neither too high nor too low, is an ideal place to plant a lily. Soil should be friable, with lots of organic matter, such as shredded leaves, peat moss, or compost, and slightly acidic. The general rule of thumb is that any soil that grows good potatoes will grow good lilies. Frankly, I don't find that hint particularly helpful, but in the hopes that some of you might have grown potatoes, I thought I'd pass it along. A pH of 5.5 to 6.5 is ideal. Voles, mice, and chipmunks love lily bulbs. If you are bothered by any of these creatures, plant your bulbs in wire enclosures for protection. Here are the particulars for planting your lilies:

- Dig a hole about six to twelve inches deeper than you plan to set the bulb. Fill the bottom with rich soil.
- Remove any damaged scales from the bulb and place it carefully in the hole, spreading out the roots. The bulb should be placed so that its basal plate is about three times as deep below the surface of the soil as the bulb is high. In other words, if the bulb is two inches in height, it should be placed in the soil at a depth of six inches. Better too shallow than too deep, as the roots can pull the bulb down in the soil about two inches, but they can't move the bulb up. Note: Madonna lily is the exception. The top of the bulb should be planted at soil level or no more than one inch below the surface of the soil. Lily bulbs should be planted about twelve to eighteen inches apart.
- Fill the hole with more of your soil, being sure to eliminate any air pockets; you want the bulb to be firmly in place. Water well and cover with a layer of mulch to conserve moisture and keep the roots cool.

- Always fertilize at the beginning of the growing season (the shoots will emerge in early spring) and water well afterwards. Use a low nitrogen fertilizer such as 5-10-10. Fertilize again after blooming.
- Remove the flower stalk only after it has yellowed and died. It should easily come away from the bulb at soil level.

Below is a list of species lilies that are wonderful in the garden and are hardy here. The lilies highlighted in bold are in the historic garden.

L. auratum, Gold-rayed Lily
Very popular. Native to Japan and imported to Europe about 1850. Three to nine feet tall. Flowers are the largest of any lily species, up to ten inches wide, and are waxy, slightly nodding, very fragrant, white with crimson spots, with a central gold stripe on each tepal. As many as thirty flowers may be borne on a stem. Blooms August through September. Stem rooting. Prefers sun to partial shade.

L. canadense, Meadow Lily
Most common native lily in eastern North America. Ranges from Nova Scotia to Alabama in bogs and wet meadows. First American lily exported to Europe. Diet staple of the white-tailed deer (not necessarily a good thing, here). Four to five feet tall. Flowers are bell-shaped, drooping, tepals reflexed, yellow to orange to red with dark spots. Blooms in midsummer. Stem rooting. Prefers full sun and moist soil. Can grow in a ditch or next to a stream.

***L. candidum*, Madonna Lily**
Native to Egypt. Considered the oldest domesticated flower, dating back to 2,500 BC. Once used as a food and a wound salve. Symbol of the Virgin Mary and St. Joseph. To three feet tall. Flowers are horizontal, pale white, delicately fragrant, with yellow interior base. Blooms in June and then immediately dies down and forms basal leaves, which persist through the winter. Base rooting. Prefers full sun and hot, dry weather. Can be viewed at the eastern (Reynolda House side) corner of the main allée and cross allée.

***L. henryi*, Henry's Lily**
Robust and long-lived. Native to central China. Named for Irish plant explorer Augustine Henry. Can grow up to nine feet tall. Flowers are drooping, tepals reflexed, not fragrant, orangey-yellow with brown spots. Stems branch several times at right angles to the main flower stalk. Blooms in July and August. Stem rooting. Prefers partial shade. Can be viewed on the eastern cross allée near the fountain.

***L. longiflorum eximium*, Bermuda Easter Lily**
Grown more commercially than any other lily. According to the USDA, the Easter lily ranks fourth in wholesale value, after poinsettias, melons, and azaleas. Native to Japan. Three to four feet tall. Flowers are horizontal, trumpet-shaped, white, very fragrant. Blooms in July. Stem rooting. Prefers full sun. Can be viewed in the center of the outer quadrants of the Blue and Yellow Garden.

***L. speciosum* 'Rubrum', Japanese Red Lily and *L. speciosum* 'Album', Japanese White Lily**
Old garden favorites that are robust and easily grown. Native to Japan. Four to five feet tall. Flowers are nodding, tepals reflexed, spicily fragrant, dark red with darker spots and white without spots. Bloom in August and September. Stem rooting. Attract butterflies and moths. Prefer sun to partial shade. Can be viewed on the western (Reynolda Road side) cross allée.

L. superbum, Turk's Cap Lily or Swamp Lily
Most showy of native North American lilies. Ranges from New Hampshire to northern Florida. Exported to London in 1738. Easy to grow but takes some time to get established. Five to eight feet tall. Flowers are drooping, tepals reflexed, fragrant, orangish-red with dark maroon spots. Blooms in July and August. Stem rooting. Prefers sun to partial shade and moist soil. Can often be seen growing wild in the mountains of North Carolina.

As far as hybrid lilies go, the variety is infinite. If I listed every favorite I have, this article would be continued in the next *Gardener's Journal* and in the next and so on in perpetuity. I don't think Camilla will go for that, so I'll only mention a few of the ones that I absolutely love.

L. 'Casablanca'
The most popular white hybrid. Extremely vigorous. Native to China. Three to four feet tall. Flowers are nodding and up to ten inches in diameter, tepals reflexed, very fragrant, gleaming white with white spots. Blooms in late summer. Stem rooting. Prefers sun to partial shade. Very tolerant of heat. This is the lily we grew in our Evening Garden last summer.

L. 'Mona Lisa'
A smaller lily than most, so ideal for pots and the front of beds. Native to China. Two to three feet tall. Flowers are horizontal and often semi-double, tepals slightly reflexed, spicily fragrant, rose pink, with darker pink center and spots. Blooms in mid- to late summer. Stem rooting. Prefers sun to partial shade.

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Lovely Lilies

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L. 'Stargazer'
Most widely grown Oriental hybrid. Very vigorous. Native to China. Three to four feet tall. Flowers are upward-facing, very large, tepals slightly reflexed, very fragrant, crimson red, with dark red spots and white margins. Blooms in midsummer. Stem rooting. Prefers sun to partial shade.

Cutting

Lilies make wonderful cut flowers, lasting considerably longer that most other flowers. In fact, buds will continue to open for up to ten days after the lily is harvested. However, if you want to get the most from your arrangements, try to remember the following things. First, lilies should be cut in the evening or very early morning, when the stems are most full of water. Select a stem where the lower blooms are fully open. Immediately (while still in the garden) plunge the cut lilies into deep, tepid water. Second, lilies need a resting period after cutting. Take them inside and place them in a cool spot to "harden" overnight before putting them into your vase. Remove the anthers, which contain the pollen, as lily pollen will stain clothing and upholstery badly. Third, change the water daily.

When cutting lilies, do try to take as little of the stem as possible, as the foliage is necessary for photosynthesis. And try to avoid cutting the same lily every year, as it will suffer from the removal of stem and foliage, regardless of how little you remove; cutting every other year is best.

Propagation

Good news! There are a few simple way to increase your number of lilies without spending your cash. The propagation methods that I am going to discuss will produce plants that are identical to the parent.

Scaling is the most rapid means of propagation of lilies and is easiest for amateurs. When the leaves die down, dig the bulbs. Discard any decayed outer scales. With your hand, remove the scales directly underneath, breaking them off as near to the bottom of the bulb as you can. Up to one-half of the bulb can be removed, although I think that is a little drastic, if you want the donor bulb to flower the next year. Removing five to six scales is ideal. Set the scales, with the pointed end up, in a tray filled with sand or vermiculite which has been watered thoroughly and allowed to drain. Each scale should be about half submerged. Place inside a plastic bag that has a couple of holes punched in it for ventilation and seal loosely. Put the bag in a bright, warm area; about seventy degrees is good. In about six weeks, when the scale has turned brown and started to shrivel, remove the tray from the bag. Tug gently on the scale. If you meet resistance, gently pull up the scale. You should see a small bulblet, about one-fourth to one-half inch in size, formed at the base of each scale. Gently plant the bulblet, still attached to the scale, about one inch deep in soil in a pot. Do not touch it (I know that's hard) for one year. After that, the bulblet will be suitable for planting outside in a bed as a normal lily bulb would be. Most bulblets will grow to flowering size within three years.

Bulblets can also be harvested from stem rooting lilies. In late summer or early fall, before the stem has died back, dig up a mature lily. Look for the bulblets on the portion of the stem that is under the soil. Using your fingers, gently separate the bulblets from the stem. If they already have roots on them, so much the better, just be careful not to damage them. Immediately replant the mother bulb and water her well. The bulblets should also be planted immediately and should be placed in the soil at a depth of two to three inches at about six inches apart. As always, water well after planting. Again, the replanted bulblets should flower within three years.

Some lilies bear bulbils in their leaf axils. Bulbils are typically dark in color, almost black, and resemble tiny beads. They usually ripen in late summer or early fall and may be harvested as soon as they can easily be separated from their mother plant. Once removed, plant them as you would bulblets. The bulbils that I harvested from the Bermuda Easter lilies, as shown in the photographs in the last *Journal*, were planted in pots and placed in the cold frame in early fall. At last count, I had ninety-two (ninety-two, can you believe it?) peeking through the soil.

You can encourage the formation of bulblets and bulbils by removing the flowers and buds from a lily. Without a flower there cannot be seeds (folks, this is sexual reproduction), so the lily must turn its attention to other methods, namely asexual reproduction, i.e. producing bulblets and bulbils.

Uh-oh. I just did a word count and it's over my limit. No matter, there can't be anything else that you want or need to know about lilies. If there is, I certainly can't help you. So sit down and start working on that plant order. And, in a few summers, when that wonderful fragrance is wafting though your house from that magnificent arrangement on your table, you'll thank me and be grateful that I'm so longwinded.

London Plane Trees

Continued from page 1

This handsome tree is planted in towns and cities throughout Europe. It is especially well suited to an urban landscape because it is very resistant to pollution and diseases, tolerant of poor soil conditions, and can survive severe pruning. Many of the plane trees in London squares and parks are over two hundred years old.

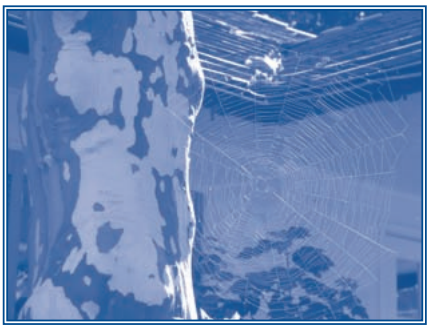
The London plane tree is a beautiful, ornamental tree. One of its nicest features is the trunk. Large patches of the bark flake off to expose a beautiful, smooth, white bark underneath. It has a mature height of seventy-five to one hundred feet and a spread of sixty-five to eighty feet. But that doesn't sound like the trees here at Reynolda! Ours are nearly a hundred years old but have a spread of only fifteen feet and are much shorter in height. What makes the plane trees here at Reynolda different is the fact that they have been pruned in a style called pollarding.

Pollarding History and Method

Pollarding is a pruning system with a long history. It has been used for at least 1,500 years in Europe and parts of Asia. Originally it was used to produce annually renewed "whips" that could serve as fodder for livestock, firewood, and weaving material for yard fences, and in leather tanning. Trees were cut high enough to keep the small-sized wood out of the reach of deer. Later this style of pruning was used in urban areas to keep large tree species in bounds on narrow streets and in small parks. Pollarded trees can be maintained at the same height for centuries.

Examples of pollarding are still seen throughout Europe. Today it is done mainly for ornamental effect. In the movie "The Talented Mr. Ripley," there is a scene of a jazz band playing at a party, with a row of pollarded trees in the background. I was thrilled to see this and had to point them out to my companions. I had quite a few "shhhhs" to quiet me down, but those trees were the best part of the movie!

Pollarding is started on young trees. Initially the tree is allowed to grow to the desired height. Then, in early spring, the main branches are cut off. The initial cuts are made to young and small diameter wood that responds rapidly by callusing, thus reducing the risk of decay. Training young trees also allows for the development of a strong structure. By late spring there will be a tight grouping of fast growing sprouts below the cuts. All of these sprouts are cut off annually as close to the original cut as possible. January is a good time to prune pollarded trees because they are not under water stress at that time and have high food reserves. I love to see their silhouette against the late winter sunset.



Large patches of the bark flake off to expose a beautiful, smooth, white bark underneath.

After a tree has been pruned this way for several years, it will develop a "pollard head" or "boll," which looks like a large knot and gives the tree the gnarly appearance. This knot is a dense mat of woody fibers. This is important because it resists decay and divides the vigorous new growth from the aging branch. I have read that because pollarded trees have a constantly rejuvenated, energy creating, young canopy on top of an aging trunk, the tree's aging process is slowed.

One of the things that our local arborists, extension agents, and the staff here at Reynolda Gardens constantly preach is not to top trees. So how is pollarding different from topping? Pollarding always involves young wood. After the initial cuts, the branches removed are always one or two years old and are a small diameter. Topping involves cutting much older and larger branches, which circumvents the tree's ability to callus properly. This then allows insects and diseases to enter the tissue. One thing to point out is that not all trees tolerate pollarding. Some other species that are appropriate to use are beech, black locust, catalpa, hornbeam, linden, willow, redbud, horse chestnut, and mulberry.

Once a tree has been pollarded, it is important to continue the pruning every year; otherwise, the weight and angle of the new shoots become a problem, and the branches can break out in wind or ice. The pollarded London plane trees at Reynolda are pruned every winter by Jim Mussetter, Wake Forest University arborist, and his assistants, Gus Montes and Travis Asbury. Several years ago we rooted cuttings from the winter clippings and replaced one of the trees that we knew, from looking at old photographs, was missing. It will soon be at the proper height for Jim to begin pollarding. We took more cuttings this winter because one of the original trees struggled last year with the freeze at Easter and the drought last summer. Jim has some worries about it, but, hopefully, it will battle back this season.

The next time you are visiting Reynolda, I hope you will take the time to appreciate these special trees. Also, try to pick out the one that is not a London plane tree but is actually an American sycamore. I think it is easy to see which one seems "more at home."

Gardener's Journal

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Gardening in a Drought

Continued from page 5

Because they have naturally adapted to this area, they stand the best chance of survival in a drought. Many non-natives, including a wide variety of salvias, *Salvia* sp. and lantana, *Lantana camara* can succeed also because they are native to similar regional environments.

Pelargonium sp., Geranium
From the many scented types to the popular 'Martha Washington', the geraniums are all tender plants that actually dislike wet soil and are ideal choices for pots and hanging baskets. They will take full sun to partial shade.

Cosmos sp., Cosmos
Feathery foliage and daisy-like flowers; excellent for filling in beds and borders.

Coreopsis sp., Tickseed
A sunny flower border workhorse. Because it blooms most of the summer, it makes a great addition to any garden design, and it's an excellent plant for container gardens.

Echinacea purpurea, Purple Coneflower
Produces large, fragrant, pink flowers in April and May.

As you can see, a well chosen palette of drought tolerant plants can create a handsome and enduring garden that holds its looks and character with very little care. Turn over a new leaf this spring and create a drought tolerant garden—the smart, colorful, and low maintenance solution to Winston-Salem's drier summer climate.

Wake Forest University
Reynolda Gardens

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