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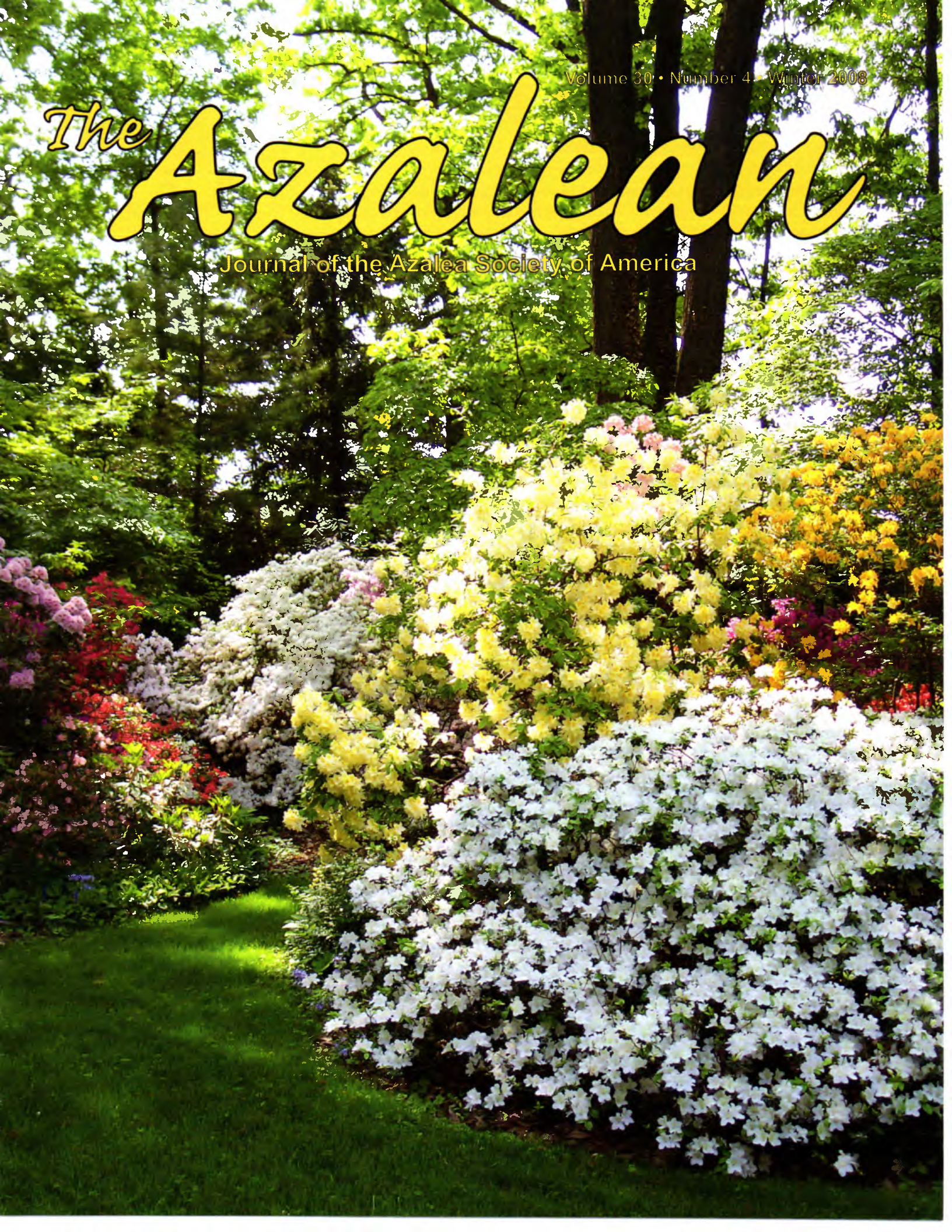
The Azalean

Journal of the Azalea Society of America



President's Letter

John Brown — Cleveland, South Carolina

Recently, I was asked to write an award recommendation for another group involving a member of our Society. The stipulation was it be brief and list the things the person did, not what offices he held. After I got past being honored that I was asked, I started thinking about the things this person did and how much our Society has benefited from his membership. As a result, the subject for this issue's letter jumped out at me.

Most successful organizations have at least one member with the interest and drive to devote time and effort toward improving the organization. Fortunately, we have several. The problem comes when they develop burnout from a lack of support. It is much easier to run a long race if others are in a pack around you.

I encourage you to join the pack, enjoy the shared feelings of the group, and have the sense of accomplishment from watching our Society improve. It really doesn't take much effort or thought to make a difference. Little things count when it comes to helping our chapters. Helping just a little is easy to do and soon becomes a habit. Chapter presidents are the same people who, just a few years ago, were bringing refreshments to a meeting or helping load plants at a chapter plant sale.

If you really want a strong sense of accomplishment, bring a friend or two to a chapter meeting and get them to join. Our at-large members need to know that geographical proximity is not a requirement for chapter membership. The Vaseyi Chapter, located in the Carolinas, has active members in New England and the West Coast. Both were actively involved in producing the 2008 convention.

At-large members are not charged additional dues for joining a chapter because the membership is included in national dues. Your first opportunity to join a chapter comes when you renew your ASA membership. A little effort in support of either a local chapter or on the national level is multiplied by all of the members involved.

For example, a generic speaker was scheduled for the September Vaseyi Chapter meeting. However, scheduling conflicts left us with no speaker, resulting in a round table discussion on "Gardening Without Water." A good turnout at the meeting forced us to add table after table to the "round table," turning it into an oblong table.

To set the scene, the City of Hendersonville, North Carolina, has outlawed irrigation other than a handheld hose sprinkler. Hand watering takes a while in most of our members' gardens, so we discussed ways of keeping plants alive without breaking water restrictions. Deep secrets were revealed, giving everyone a sense of belonging.

You can directly improve the financial picture of the Society by renewing your membership when you receive your dues notice. This saves the cost of additional mailings and is appreciated by the folks who put the mailings together.

Another pleasurable way to help yourself and the Society is to join in on the fun of attending a convention. A record-setting 147 people attended the last convention in Asheville, North Carolina. The planning committee for the upcoming convention is also experienced in putting on a great show. They are on track to provide one of the best conventions yet, and need your support. Join the pack and enjoy the shared feelings. Now is the time to make plans to attend.

The Azalea Society of America, organized December 9, 1977 and incorporated in the District of Columbia, is an educational and scientific non-profit association devoted to the culture, propagation, and appreciation of azaleas which are in the subgenera *Tsutsusi* and *Pentanthera* of the genus *Rhododendron* in the Heath family *(Ericaceae)*.

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On the Cover

Exbury hybrid 'Marina' stands tall behind the Glenn Dale azalea 'Glacier' in Don Hyatt's garden in McLean, Virginia. The Northern Virginia Chapter is hosting the 2009 ASA National Convention. Hyatt's garden is one of many tour stops planned during the convention. See page 76 for more information.

Photo Don Hyatt

Virginia Celebrates Azaleas:

ASA Convention May 1-4, 2009

The Northern Virginia Chapter extends a warm welcome to ASA members in 2009. We are delighted to host the ASA National Convention and have planned a memorable experience for you. Our peak azalea blooming season should coincide with the convention in early May along with a wealth of flowering plants that always make spring in Virginia special.

Virginia truly does celebrate azaleas. We are fortunate to live in a region where the climate and soil conditions are nearly perfect for growing evergreen azaleas. The proliferation of evergreen azaleas in the mid-Atlantic region has led to a quest for new and better varieties with improvements in flower color, texture, foliage quality, plant habit and hardiness. A number of our chapter members are hybridizers and look forward to sharing their latest crosses with fellow members.

Our headquarters is the Crowne Plaza Hotel, 2200 Centerville Road, Herndon, Virginia, just minutes from Dulles International Airport. Its convenient location is 22 miles from Washington, D.C., and only four miles from the Smithsonian Udvar-Hazy Air & Space Museum. The hotel is offering a special $94 convention rate. Reservations may be made by calling 800-227-6963 or online at www.cpdulles.com. The hotel offers free parking, a 24-hour complimentary shuttle to and from Dulles Airport, and an on-site Enterprise Car Rental Desk.

Photo Don Hyatt

▲ Joe Klimavicz hybrid 'Sandy Dandy' grows among other seedlings under evaluation in his garden.

▼ 'Caitlin Marie' (left) and 'Lovely Linda' (right), two introductions by Joe Klimavicz as seen in his garden.

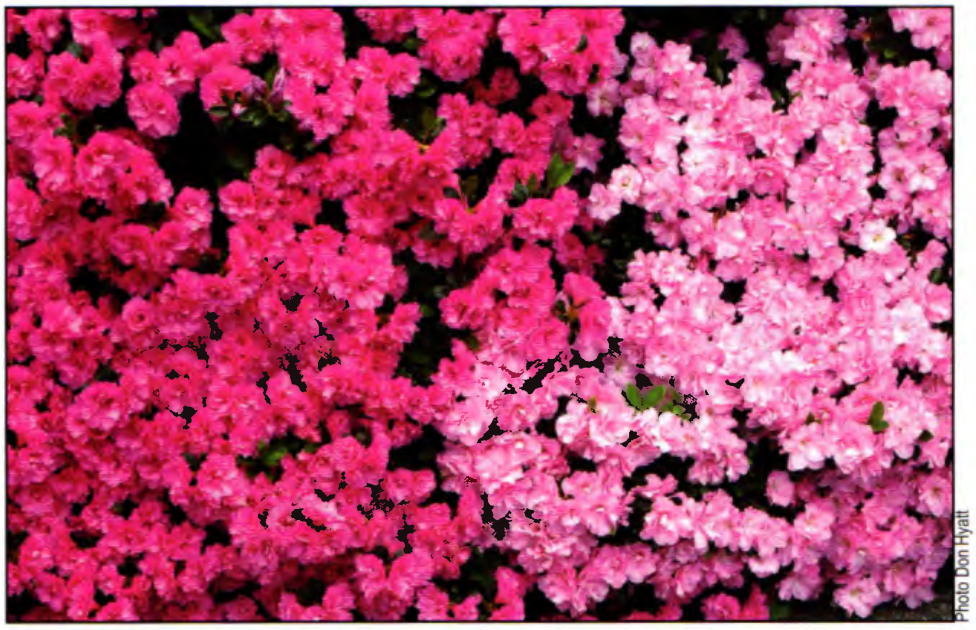

Photo Don Hyatt

Friday, May 1

The convention officially opens at 7 p.m. Friday, May 1. The Board meeting is at 2 p.m. and registration begins at 2 p.m.. The plant sale opens at 4 p.m. You should plan to arrive in the afternoon, so you can be settled in for the opening meeting. Most routes heading away from Washington can be rather congested during the afternoon "rush" hour, which often begins before 3 p.m. on Fridays. Approaching the hotel from the west, to include Dulles Airport, is easier at that time of day.

Friday Evening Program

Following welcoming announcements at 7 p.m., the evening's program sets the stage for the theme of the convention. We will give a brief slide preview of some of the gardens we will visit on Saturday and Sunday, followed with presentations by **Tony Dove** and **Pete Vines**.

Tony is a Past President of the ASA, serving in 1985. Following his 1969 graduation from the University of Maryland with a degree in Environmental Horticulture, Tony designed and constructed the lovely London Towne Gardens which you may have visited during the 2004 ASA Convention. Since that time, Tony has held a number of prestigious positions including Chief of Grounds Management for the Smithsonian Institution in Washington, D.C. He now serves as the Horticulturist for the 3000-acre Smithsonian Environmental Research Center in Edgewater, Maryland.

His subject is "Celebrating 200 Seasons—One Man, One Garden," describing how his 10-acre private garden went from essentially seedlings to maturity during the past 50 years. He will explain the importance of design with long-term relationships in mind, not only for the garden but also for the gardener. Tony's stunning mature landscape in Harwood, Maryland, features not only azaleas but an array of choice companion plants that make it truly a garden for all seasons.

A prominent local Northern Virginia hybridizer, **Pete Vines** will talk about his development of the popular "Holly Springs Evergreen Azalea Hybrids." Although Pete has since retired to Amelia Island, Florida, he has left behind a legacy of superb azaleas that are valuable resources for the landscaper as well as the collector.

Saturday, May 2

On Saturday, we will tour gardens in the western part of Fairfax County, Loudoun County, and Prince William County. The buses will leave the hotel at approximately 8:30 a.m. and return to the Crowne Plaza at approximately 4:30 p.m.

Dan and Barbara Krabill Garden

Dan and **Barbara Krabill's** garden is on a half-acre lot in McLean, Virginia. Their garden began in 1990 with about 200 small azaleas that they moved from their previous garden next door. At present, the garden consists of approximately 1,100 varieties of evergreen azaleas and a much smaller number of other plants including rhododendrons, hostas, perennials, and annuals. The evergreen azaleas are generally planted by hybrid group, and include more than 400 different Glenn Dales, about 125 Kurumes, and 90 Satsuki. In addition, nearly all of the Back Acres and Robin Hills are represented, as well as many named hybrids by **Bob Stewart** and **Joe Klimavicz**. Don't miss the chance to see this amazing garden in full bloom.

Don Hyatt Garden

Don Hyatt's garden is a mature landscape that has seen many changes since he first started the garden in 1951 at the age of 3! The 3/4-acre property originally had a high oak canopy with an understory of dogwood trees where many of the azaleas and rhododendrons have grown. The loss of several large trees in recent years could be seen as a setback, but Don has taken this as an opportunity to allow the garden to evolve. The front yard has wide irregular borders of evergreen azaleas and rhododendrons in various color schemes. Don is particularly fond of his wildflower collection, which includes trillium, ferns, and native orchids including a large stand of yellow lady's slippers. The native blue phlox is well represented throughout the garden. The landscape in Don's backyard features large azaleas and spectacular rhododendrons, many of which Don has raised from seed.

Throughout the landscape are many deciduous azaleas in varying colors including named Exbury and Knap Hill hybrids, native azaleas, and specimens from Don's deciduous azalea hybridizing program. Don't miss the chance to view this spectacular garden in all its glory.

Joe and Brenda Klimavicz Garden

Since the late 1980s, **Joe Klimavicz** has been hybridizing evergreen azaleas in his 1/3-acre Vienna, Virginia, backyard. This garden is an example of highly intensive cultivation. Each year, Joe makes about 10 crosses and brings

▼ Azaleas feature prominently in the Krabill garden.

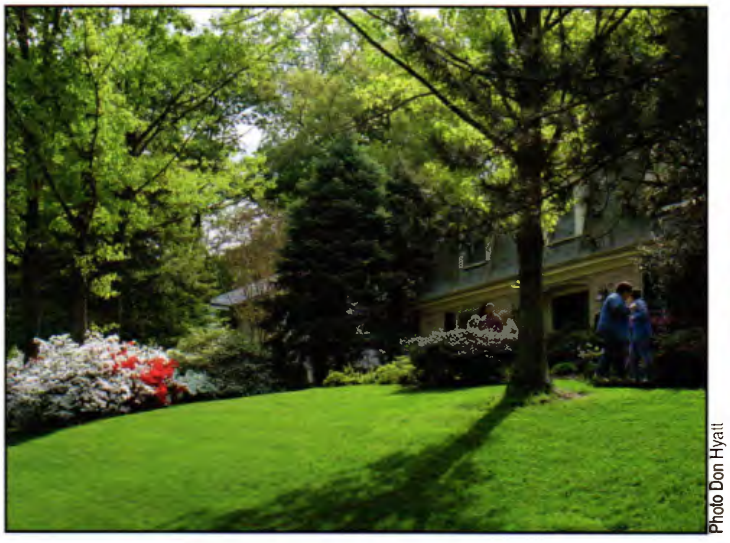

Photo Don Hyatt

▼ Sandra McDonald hybrid 'David's Choice' featured in the Hyatt landscape.

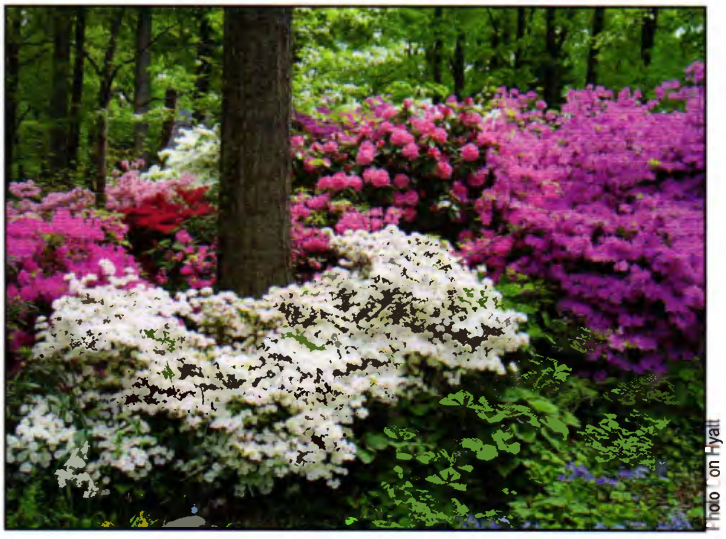

Photo Don Hyatt

50-100 new seedlings out of his basement and into his cold frames. He discards almost all of them after they flower, retaining only the best. Specific hybridization objectives include a plant that is hardy, floriferous, and has a flower that is long lasting and bright in color. He has registered 10 plants to date. This tour gives azalea growers a great inside view into hybridizing.

Lunch at Meadowlark Gardens

We will enjoy lunch in one of the most beautiful settings in Virginia, Meadowlark Botanical Gardens. This 95-acre public park located in densely populated Fairfax County is a gem where visitors can take in the beauty of well-landscaped grounds, ponds, wildlife and a central reception center. We will allow enough time for a short stroll through this majestic green space, but attendees are encouraged to return on their own to fully appreciate these lovely grounds.

Phil and Frances Louer Garden

Phran's Azalea Trails (**Frances** and **Phil Louer**) includes about 150 separate flowerbeds of azaleas and rhododendrons along winding trails on five naturally landscaped acres near Haymarket, Virginia. There are more than 5,000 azaleas and 200 rhododendrons planted in these beds. Most of these are in wooded areas, but some are in full sun. Altogether, the collection has more than 9,000 azaleas (including those in pots yet to be planted) representing more than 3,000 varieties and 221 hybrid groups.

Intermixed with the azaleas are many wildflowers, thousands of daffodils, and hostas. Frances has collected a large quantity of hostas and has bravely planted them in many locations in defiance of the deer browsing everywhere! The mature azalea and rhododendron plants put on an impressive display every spring, with old favorites, rare varieties, and new introductions arranged to blend in both color and size.

Saturday Evening Program

We will return to the Crowne Plaza hotel in time for a rest, a cash bar social hour, and the plant sale. Again, the plant sale opens at 4 p.m. Dinner for Saturday evening is on your own.

The meeting commences at 7 p.m. Following a few brief announcements we will enjoy two expert presentations, one by **Clarence Towe** and the other by **George McLellan**. Afterwards, the plant sale opens once again so attendees can have additional time to look for plants admired during the garden tours that day.

Clarence Towe is a retired Superintendent of Schools in South Carolina, but has spent much of his life studying native azaleas in the wild. He is the well-known author of the book *American Azaleas* and noted expert on native plants of all kinds.

His subject tonight is "American Azaleas: A Second Look." After continuing study of plant populations in the wild combined with scientific advances including polyploid analysis and DNA testing, scientists have discovered some exciting new relationships among our native azaleas. Join Clarence as he shares with us these amazing new discoveries as well as possible new species recently identified in the United States.

George McLellan holds a Bachelor of Science degree in Marketing from the University of Maryland. After spending many years in the family building materials business, he established his own landscape design operation, My Bloomin' Garden. An expert photographer and recent recipient of the Silver Medal from the American Rhododendron Society, George has spent much time pursuing the study and documentation of our native azaleas and other native plants.

George will be "Celebrating our Native Flora—Coast to Coast." From Cape Breton in Nova Scotia, to the Appalachians, to the Northern Rockies, to Yosemite and Big Sur, George will take us to some of the most scenic spots in North America as he celebrates our native flora. He will not only discuss the amazing differences among the diverse native plant materials that inhabit these locations but will also point out some amazing similarities.

Sunday, May 3

The Sunday bus tours will take us to gardens in eastern Fairfax County with a box lunch at Green Spring Farm Park. The buses will leave at approximately 8:30 a.m. and return to the Crowne Plaza by 4 p.m.

▼ Just a few of the 9,000 azaleas in the Louer garden.

Photo Don Hyatt

▼ Gazebo in the backyard of the Louer garden.

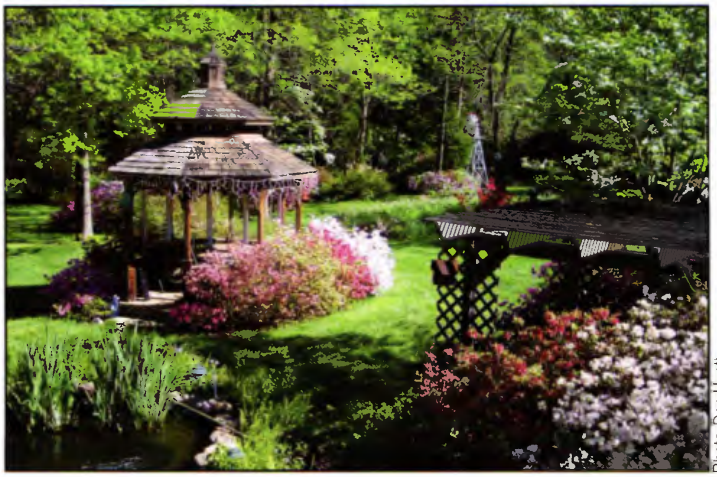

Photo Don Hyatt


Photo Don Hyatt

▲ Dave escorts visitors along a trail in the Nanney garden.

Dave and Leslie Nanney Garden

The garden of **Leslie** and **Dave Nanney** is a two-and-a-half acre woodland garden containing more than 2,500 azaleas and more than 1,000 varieties. The Nanneys began their collection more than 35 years ago with the initial house warming gift azaleas from Leslie's mother, **Frances Louer**. The garden is targeted to the plant collector, with many of the beds organized to display the work of a single hybridizer. It is organized in beds separated by winding paths, encouraging the visitor to focus on groupings of individual plants. This provides a unique opportunity to compare the breeding objectives and tastes of such important contributors as Bob Stewart, Pete Vines (Holly Springs), Bob Gartrell (Robin Hills), Buck Clagett (Bowie Mills) and many others.

Stroll along the stone-lined paths highlighted with varieties of Japanese maples, hostas, ferns, and other shade loving plants. Mixed throughout are selections of Glenn Dale and Satsuki azaleas. The garden displays many mature plants more than 25 years old in the front yard while the recently cleared back gardens have more recent additions. The garden is a work in progress, demonstrating that gardening is not just a product but is a continuous and wondrous process.

Bob and Betty Stewart Garden

The Stewart garden offers a unique environment for the azalea enthusiast to enjoy. It has an extensive azalea collection representing many hybrids with impressive diversity, most of which will not be found in any garden center. **Bob** started hybridizing with a few crosses in 1990 and increased the number each year. He has evaluated thousands of seedlings over the years since.

Many of the seedlings from Bob's crosses can take your breath away with wonderfully exciting blooms and outstanding foliage on plants with great form and improved hardiness. He has named and registered quite a few hybrids, and there are many others under number that are still being evaluated. Visiting this garden is an opportunity to observe an avid hybridizing program in progress, and a chance to gather ideas about innovative plant care techniques.

Lunch at Green Spring Farm Park

Green Spring Farm Park will be our stop for lunch. This public park is a green oasis in a densely developed area of Northern Virginia between Annandale and Alexandria. This lovely park has many large azaleas and rhododendrons as well as many spring wildflowers and flowering trees. It is a great learning center for schoolchildren as well as gardeners from the surrounding area.

Dave and Sharon Raden Garden

After lunch we will stop at **Dave** and **Sharon Raden's** beautiful one-and-a-half acre garden. Their wooded property is right off the Beltway but secluded and tranquil. With parkland on two sides and Accotink Creek running through it, sights may also include deer, fox, coyote, raccoon, hawks, herons, snapping turtles and other local wildlife. The Radens moved to this picturesque spot almost 15 years ago and brought more than 800 azaleas and rhododendron with them. With yearly additions since then, there are more than 2,000 plants and 1,200 varieties of azalea and rhododendron.

Carolyn and Paul Beck Garden

The Beck garden is situated at the edge of a well-established development against a backdrop of wooded parkland. Initially the emphasis was almost exclusively on azaleas. Over time a more eclectic approach was taken by **Carolyn** and **Paul** to include flowering trees and shrubs, dwarf conifers and maples, perennials, hostas, and ferns. In most instances, only one of each cultivar was acquired to allow for as much diversity as possible. Azaleas still make up the biggest portion of the plantings with a wide variety of hybrid groups that cover bloom times from early April through June. The hybrids of Bob Stewart and Pete Vines are well represented. The addition of a water feature and other landscape design elements enhance the overall effect.

Sunday Banquet Program

We return to the Crowne Plaza in time for a rest, a cash bar social and the plant sale, but be sure you are in the ban-

▼ An unnamed Holly Springs hybrid in the Beck garden.


Photo Don Hyatt

quet room before 6:30 p.m., since we will be staging a short but very entertaining auction. The banquet begins at 7 p.m. in the same room followed by our evening speakers, **Rosalie Nachman** and **Don Hyatt.** We will conclude with the annual meeting.

Rosalie Nachman is a life-long gardener and past ASA board member. She has also served on the Board of the Middle Atlantic Chapter of the ARS and is well known in Henrico County for her expertise.

Her talk this evening will be "Advice to the Lovelorn Azalea Nut." One of the grand ladies of the ASA, Rosalie will combine her expert gardening advice with her delightful sense of humor as she shares mistakes and successes over many years while developing her private garden in Richmond, Virginia. Be prepared to laugh and learn in this memorable presentation.

Our keynote speaker is **Don Hyatt**. Don holds a Bachelor of Science degree in Horticulture and a Masters degree in Computer Science, both from Virginia Tech. Although professionally a public school math and computer science teacher his entire career, Don has maintained a life-long interest in gardening and plants of all kinds. He has served on the ASA Board and is a recipient of the ARS Silver Medal.

Don's talk is titled "Celebrating the Evergreen Azalea." This multi-media presentation celebrates the beauty and diversity of the evergreen azalea. Beginning with a brief history of this long-cherished flowering shrub, he will discuss some of the contributions of pioneers in the field like Joe Gable, Ben Morrison, John Creech, August Kehr and others before acknowledging some of the more recent and stunning accomplishments of our modern hybridizers including many here in Northern Virginia. He will then challenge us to look to the future so we can tap the full potential of the amazing evergreen azalea.

Annual Meeting

A brief membership meeting following the speakers will include the ASA awards ceremony and the election of new Society officers for the upcoming year.

Monday, May 4

The final plant sale takes place from 8:30 to 10 a.m. Monday morning. A Board meeting also takes place from 7 to 8:30 a.m., with a hybridizer's roundtable from 8:30 to 10 a.m.

For those who wish to remain in the area for a while, there are major attractions, including the National Arboretum and Mount Vernon in the metropolitan area, and some of our local gardens will also be open for informal tours. More information on these attractions and directions will be posted on the 2009 ASA Convention link on the Azalea Society of America web site (**www.azaleas.org**), and will also be available during convention registration.

Chapter News

Ben Morrison

Harold Belcher, President

Norman and **Jean Beaudry** presented a slide presentation detailing the 20-year evolution of their garden at the Chapter's October 19 meeting. They have an extensive collection of azaleas, rhododendrons and companion plants.

Don Hyatt presented a preview of the upcoming ASA convention which is being held in Northern Virginia in May.

Northern Virginia

Eve Harrison, President

Amol Kaikini from the Fairfax County Master Gardeners Association was the guest speaker at September's Chapter meeting. He spoke about Integrated Pest Management (IPM) for azaleas and rhododendrons. He is a highly experienced Master Gardener who has extensive knowledge of organic gardening practices.

Oconee

Ruth Mellon, Secretary

The summer meeting of the Oconee Chapter was held June 14 in **Joe Coleman's** garden. It was a joint cutting party held with the Azalea Chapter of the American Rhododendron Society. About 12 members from the two groups attended the event. Joe gave several private one-on-one tips on his method of propagation as well as a tour of his greenhouse.

Attendees also enjoyed a visit from ASA President **John Brown**.

Vaseyi

John Brown, Secretary

The September Chapter meeting was attended by 16 members including one new (old) re-joining member, **Susanne Brown**. The Chapter voted to fund one-half of the proposed signage project at the North Carolina Arboretum at Asheville provided the Southeastern Chapter of the ARS agrees to fund the other half.

A short report from the Vaseyi Chapter Awards Committee asked the membership for input on the name for the chapter award. Reference was made to the Brookside Gardens Frederic. P. Lee Award. Choices include The (Dr.) Augie (or August) Kehr Award, The Fred Galle Award, and the (Dr.) George Vasey Award. The Committee will try to sort out the discussion and include it in the report at the chapter's annual meeting in November.

A group discussion followed on the subject of gardening in the absence of water due to current watering restrictions. Many innovative ideas were shared for recycling water and keeping plants alive.

Understanding Polyploidy:

Insights Into the Evolution and Breeding of Azaleas

Thomas G. Ranney & Jeff R. Jones—Mills River, North Carolina

Polyploidy is relatively common in plants and *Rhododendron* are no exception. This curious genetic phenomenon has provided an important pathway for evolution and speciation and continues to be a significant field of study. On a practical level, there are many opportunities for utilizing polyploidy as a valuable tool in azalea breeding programs.

What Is Polyploidy and How Does it Arise?

A polyploid is simply an organism that contains more than two complete sets of chromosomes. For animals, this is rare (though a polyploid rat, the first polyploid mammal ever identified, was recently discovered in Argentina). In plants, however, polyploidy occurs naturally and is widespread.

The term "ploidy" or "ploidy level" refers to the number of complete sets of chromosomes and is notated by an "*x*". An individual with two sets of chromosomes is referred to as a diploid (2*x*), three sets would be a triploid (3*x*), and so on with tetraploid (4*x*), pentaploid (5*x*), hexaploid (6*x*), etc. It is sometimes also important to identify if one is referring to the reduced (gametophytic) chromosome number following meiosis as would be found in egg and sperm (denoted as "*n*") or in non-reduced (sporophytic) tissue as would be found in a growing plant (denoted as "2*n*"). Thus, for example, a tetraploid azalea would be presented as 2*n*=4*x*=52.

Polyploidy can arise naturally in a number of different ways. In some cases a somatic (non-reproductive) event can occur, due to a disruption in mitosis, resulting in chromosome doubling in a meristematic cell(s) that will give rise to a polyploid shoot. These sports are sometimes evident on a plant by their enlarged "gigas" condition. Polyploids can also result from the union of unreduced gametes—eggs and sperm that have not undergone normal meiosis and still have a 2*n* complement.

The origin of polyploids can often determine if polyploids will be fertile and how they can best be used in a breeding program. If a tetraploid arises from spontaneous doubling in a shoot or from the union of unreduced gametes from two closely related (e.g., same species) diploid individuals, it will have four similar (homologous) versions of each chromosome. Despite different pathways, both of these polyploids behave similarly reproductively and are often referred to as autotetraploids (or polysomic tetraploids). Autopolyploids may or may not be fertile. In diploids, meiosis involves the pairing of homologous chromosomes, which eventually segregate to form two separate gametes, each with one set of chromosomes. Infertility can arise in autopolyploids due to the fact that there are more than two homologous chromosomes. The presence of multiple homologous chromosomes often results in spurious pairing between multiple chromosomes, unpaired chromosomes, and gametes with unbalanced chromosome numbers (aneuploids).

Offspring that result from sexual reproduction between unreduced gametes or somatic doubling in a hybrid of different species are referred to as allopolyploids (or sometimes amphidiploids or disomic polyploids). These plants also have four versions of each chromosome, but the two from one parent are sufficiently different from the two from the other parent that they generally don't pair during meiosis. Due to this composition, allopolyploids are typically fertile. During meiosis each chromosome can pair with its homologous partner, meiosis continues, resulting in fertile germ cells.

In many cases polyploids fall somewhere in between an autopolyploid and allopolyploid, whereby there is partial chromosome homology resulting in a combination of disomic and polysomic pairing and are referred to as segmental allopolyploids.

Role of Polyploids in Plant Evolution

In contrast to the gradual evolutionary process whereby new species evolve from isolated populations, new species of plants can also arise abruptly. The most common mechanism for abrupt speciation is through the formation of natural polyploids. Once a tetraploid arises in a population, it can generally hybridize with other tetraploids. However, these tetraploids are reproductively isolated from their parental species. Tetraploids that cross with diploids of the parental species will result in triploids that are typically sterile. This phenomenon provides a "reproductive barrier" between the polyploids and the parental species—a driving force for speciation.

Various estimates suggest that as many as 47-70 percent of flowering plants are of polyploid origin. There are a number of factors that may provide polyploids with adaptive and evolutionary advantages. Perhaps most importantly, polyploids can be significantly more heterozygous than their diploid counterparts. Polyploids can have four different genes (alleles) present at any given locus (location on a chromosome). The degree of heterozygosity may be a key factor in the growth, performance, and adaptability of a polyploid. Allopolyploids can have a much greater degree of heterozygosity (dissimilar genes) which can contribute to heterosis or hybrid vigor. Furthermore, this heterozygosity is somewhat fixed (chromosomes that originated from

a given species preferentially pair with similar homologous chromosomes during meiosis, ensuring that the genomes of both parental species will continue to be present). On the other hand, the addition of multiple copies of homozygous chromosomes (as would be the case with autopolyploids) does little to enhance genetic superiority and can actually reduce vigor and fertility by creating a more "inbred" situation.

One question that frequently arises is whether or not polyploids inherently have greater stress tolerance. For example, it has often been observed that disproportionate numbers of polyploids are found in cold, dry regions. Some argue that this is a spurious correlation or possibly the result of intermixing of species and formation of allopolyploids during glacial periods. Studies of Rhododendron did not find improved cold hardiness in induced tetraploids (Väinölä and Repo, 1999; Krebs, 2005). However, some polyploids may have certain characteristics that do provide certain adaptive benefits. Studies have demonstrated that allopolyploids exhibit "enzyme multiplicity" (Soltis and Soltis, 1993; Soltis et al., 2003). Since allopolyploids represent a fusion of two distinctly different genomes, these polyploids can potentially produce all of the enzymes produced by each parent as well as new hybrid enzymes. This enzyme multiplicity may provide polyploids with greater biochemical flexibility; possibly extending the range of environments in which the plant can grow (Roose and Gottlieb, 1976). Other changes in gene expression, altered regulatory interactions, and rapid genetic and epigenetic changes could further contribute to increased variation and new phenotypes (Osborn et al., 2003).

Polyploid Rhododendron

Jones et al. (2007) determined ploidy levels of a diverse collection of species, hybrids, and cultivars in the *Hymenanthes* (elepidote rhododendrons), *Rhododendron* (lepidote rhododendrons), *Pentanthera* (deciduous azaleas), and *Tsutsusi* (evergreen azaleas) subgenera. Polyploidy was found to be common in the genus *Rhododendron* and considerably more prevalent in the subgenus *Pentanthera* than previously known. As expected from past reports, all of the sampled species within the *Hymenanthes* were diploid. However, many interspecific hybrids were polyploids. Hybridity has been shown to increase formation of unreduced gametes even when the parental species might not exhibit the same characteristic. Concordant with previous findings, polyploidy was common among species and their hybrid derivatives from subgenus *Rhododendron*. *Rhododendron augustinii* and its hybrids were found to be tetraploids, while *R. maddenii* clones were found to be hexaploid or octoploid. 'Bubblegum' and 'Northern Starburst' were both tetraploids developed from in-vitro colchicine treatments. Polyploidy was not common among the evergreen azaleas with the exception of two chemically induced tetraploids. The majority of deciduous azaleas were found to be diploids as has been reported previously, and *R. calendulaceum* was confirmed as a tetraploid. However, these results indicated that natural polyploidy is more prevalent among deciduous azalea species than once thought. Particularly noteworthy were the findings that *R. occidentale* includes both diploid and tetraploid individuals and that *R. atlanticum* and *R. austrinum* are predominantly tetraploid species. Many deciduous azalea cultivars were found to be polyploids including the tetraploids 'Admiral Semmes', 'Gibraltar', 'Gold Dust', 'Lemon Lights', 'Marydel', 'My Mary', 'Klondyke', 'Snowbird', and the octoploid 'Fragrant Star'. Zhou et al. (2008) also found the newly described species, *R. colemanii*, to be tetraploid.

Polyploidy and Plant Improvement

Considering the profound importance of polyploidy in plant evolution, it is understandable that there was considerable interest in developing induced polyploids when mitotic inhibitors were first discovered in the 1930s. However, despite the fact that polyploids have been developed for many major crops, these plants are almost always found to be inferior to their diploid progenitors. Somatic doubling does not introduce any new genetic material, but rather produces additional copies of existing chromosomes. This extra DNA must be replicated with each cell division. Enlarged cell size is often associated with polyploids, which can result in anatomical imbalances. Other deleterious effects can include erratic bearing, brittle wood, and watery fruit. High-level polyploids (e.g. octaploids) can be stunted and malformed, possibly resulting from the extreme genetic redundancy and somatic instability that leads to chimeral tissue. Despite the drawbacks of induced autopolyploids, these plants may be valuable if they are in turn used in a breeding program to enhance the degree of heterozygosity and are further selected for desirable traits.

Opportunities for Breeding Polyploid Azaleas

Overcoming barriers to hybridization. In some cases, desirable crosses are difficult to obtain between parents with different ploidy levels. Although it is possible to hybridize across ploidy levels in azaleas, we have found that success is generally low and the resulting hybrids will most likely be sterile or highly infertile. Crosses among azaleas of the same ploidy level are typically more successful and result in fertile breeding lines. In some cases, increasing the ploidy level of one plant to match the ploidy level of the other parent may enhance success and future breeding options.

Restoring fertility in wide hybrids. It is not unusual for hybrids between distant taxa (e.g., different subgenera) to be sterile. This often occurs due to failure of the chromosomes to pair correctly during meiosis—referred to as chromosomal sterility. By doubling the chromosomes of a wide hybrid, each chromosome has an exact duplicate and chromosomal homology and fertility can be restored. This technique has been used successfully to restore fertility in *Rhododendron* 'Fragrant Affinity'(Contreras, 2007a), an unusual hybrid between *R. ponticum* and a fragrant deciduous azalea (Contreras, 2007b).

Enhancing pest resistance. Increasing the chromosome number and related gene dose can sometimes enhance the expression and concentration of certain secondary metabolites and defense chemicals. However, this is not always the case, and little is generally known about the relationship between gene dose, gene silencing, and expression of secondary metabolites. A more promising approach would be to create allopolyploids between plants with diverse endogenous secondary metabolites. This strategy could be particularly effective for combining pest (e.g., azalea lace bug) or disease (e.g., *Phytophthora* spp.) resistance characteristics and potentially contributing to a much broader, more horizontal form of pest resistance in azaleas.

Enlargement and enhanced vigor. Although enlarged cell size found in some polyploids can have undesirable effects, it can sometimes also be beneficial. Flower petals can be thicker and flowers can be longer lasting in polyploid plants including *Rhododendron* (Kehr, 1996).

Methods for Inducing Polyploidy

In the late 1930s it was discovered that colchicine inhibited the formation of spindle fibers and temporarily arrests mitosis at the anaphase stage. At this point, the chromosomes have replicated, but cell division has not yet taken place resulting in polyploid cells. Other mitotic inhibitors, including oryzalin, have also been identified and used as doubling agents.

Methods for applying these agents varies. One of the easiest and most effective methods is to work with a large number of seedlings with small, actively growing meristems. Seedlings can be soaked or the apical meristems can be submerged with different concentrations, durations, or frequencies of a given doubling agent. Shoots on older plants can be treated, but it is often less successful and results in a greater percentage of cytochimeras. Treatment of smaller axillary or sub-axillary meristems is sometimes more effective. Chemical solutions can be applied to buds using cotton, agar, or lanolin or by dipping branch tips into a solution for a few hours or days. Surfactants, wetting agents, and other carriers (dimethyl sulfoxide) are sometimes used to enhance efficacy.

Jones et al. (2008) evaluated the effectiveness of using repeated treatments of an oryzalin suspension in a warm agar solution, applied directly to apical shoots of *Rhododendron* seedlings, to induce polyploidy. Apical meristems of hybrid seedlings were subjected to 1, 2, 3, or 4 applications of oryzalin separated by 4-day intervals or left untreated (control). The results of this study demonstrated that the method of applying a suspension of oryzalin in warm, semi-solid agar to the shoots of *Rhododendron* seedlings was an effective method for inducing polyploidy. Although single applications resulted in some polyploid plants, multiple applications increased efficacy for some of the taxa studied. Treatments resulted in a range of ploidy levels, from 2*x* to 8*x*, including cytochimeras.

Verifying Polyploidy Levels

Plants with increased ploidy levels are sometimes apparent by their distinct morphology. Increasing ploidy often results in increased cell size that in turn results in thicker, broader leaves and larger flowers and fruit. However, we have found it virtually impossible to identify polyploidy azaleas based on visual appearance. Other effective, but more time consuming, measures that indicate polyploidy include larger pollen size, greater number of chloroplasts per guard cell, and larger guard cells and stomates. Flow cytometry is a very useful tool for measuring DNA content, which can be correlated with ploidy level, and is very effective for *Rhododendron* (Jones et al., 2007). Traditional cytology is sometimes necessary to determine chromosomes' number and ploidy level, but is notoriously difficult for *Rhododendron* (Jones et al., 2007).

When testing and breeding polyploids, it is important to recognize that induced polyploids can sometimes be cytochimeras where the ploidy level varies in different types of tissue. Meristems are typically divided into three histogenic layers L-1, L-2, and L-3. Mutations and doubling agents may result in increased ploidy levels in one, two, or all three layers. For information on reproductive behavior, it is important to measure the ploidy level of L-2, or cortical layer, which is reflected in pollen size and chromosome counts from reproductive tissue (e.g. anthers). Root tips reflect the L-3 layer while the guard cells and the epidermis reflect the L-1 layer.

Summary

In the vast majority of cases, induction of autopolyploids will not, in of itself, result in substantially improved landscape plants. However, many opportunities exist, including overcoming barriers to hybridization, restoring fertility in wide hybrids, enhancing ornamental characteristics, increasing heterosis and vigor, and improving pest resistance. Recent developments in identifying existing polyploids and developing new ones provide an excellent foundation for breeding improved azaleas.

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Dr. Tom Ranney *has been a faculty member at North Carolina State University since 1989 and is currently a Professor of Horticultural Science. He leads a research program at the Mountain Horticultural Crops Research and Extension Center in Fletcher, N.C. that focuses on the evaluation, selection, and development of new landscape plants.*

Jeff Jones *recently finished his Masters degree in Horticultural Science with Dr. Tom Ranney at North Carolina State University. His project took an in-depth look at polyploidy within the genus* Rhododendron. *He currently assists Dr. Ranney's ornamental plant breeding program as a Research Specialist.*

ASA Financial Position at December 31, 2007

INCOME STATEMENT

Income	
Azalean Income	3,915.00
Dues Income	28,989.00
Gift Income	1,512.00
Interest Income	4,150.22
Seed Exchange Income	243.00
Other Income	400.00
Total Income	39,209.22
Expenses	
Awards and Memorials	200.00
Azalean Expense	22,119.76
Dues Expense	3,007.29
Membership Roster	2,316.48
Website Expense	171.43
Other Postage	315.20
Other Exoebse	851.08
Total Expenses	28,981.24
Income - Expenses	10,227.98

BALANCE SHEET

Assets	
Checking	10,600.63
Investments	76,236.43
Harding Garden	5,543.63
Total Assets	92,380.69
Liabilities and Reserves	
Liabilities	0.00
Operating Funds	21,687.56
General Reserve	51,081.08
Research Fund	14,068.43
Harding Garden	5,543.63
Total Liab. and Reserves	92,380.69

Respectfully Submitted,
Dan Krabill, Treasurer
April 28, 2008

In Memory

Vaughn Lionel Banting

Vaughn Lionel Banting, age 61 years, died on Saturday, October 11, 2008, at Ochsner Foundation Hospital in New Orleans, Louisiana, following a short illness.

He was born August 23, 1947 in Red Wing, Minnesota and lived in the New Orleans area for more than 50 years. He was a well known horticulturist, and his service company, Nicholas and Banting, designed and maintained some of the finest gardens and plantings in the city. He was also well known for his work with bonsai.

Mr. Banting was a U.S. Army veteran of the Vietnam War and a Purple Heart recipient. He was a member of the Jefferson United Methodist Church.

He is the son of the late Cyril K. and Irene Weston Banting and is survived by four sisters, Ruth Chauff (late Lowell), Beth Perkins (Skeeter), Joy Phillips (Gary), and Ivy Schlegel (Mads). He is also survived by numerous nieces and nephews, including Christopher Segar, who was central to Vaughn's care and support during his battle with brain cancer.

Memorial contributions in memory of Mr. Banting are suggested to the American Cancer Society, 2605 River Road, New Orleans, LA. 70121 or your favorite charity.

Nancy Caroline Smith Swell

Nancy Caroline Smith Swell, of Richmond, died June 30, 2008. She was born August 25, 1927 in Salem, West Virginia. She received her bachelor of science degree from West Virginia Wesleyan College in 1949 and master of science degree in Microbiology from George Washington University in 1950.

She worked at the VA hospital in Martinsburg, West Virginia, and taught at Virginia Commonwealth University. She brought her love of the mountains and native plants with her from West Virginia to Richmond in 1964. She was involved with garden clubs, botanical gardens and plant societies in the U.S. and in England. Much of her life was spent in her beautiful garden growing and propagating azaleas, ferns and other shady perennials.

The Ghost Fern and the 'Pocono Pink' azalea have been credited to her and are enjoyed by many. She and her husband, Leon, operated a gardening business, Swell Azaleas, for 23 years.

She is survived by her loving husband, Dr. Leon Swell, to whom she was married for 57 years. She is also survived by three daughters, Janet Swell of Travelers Rest, S.C., Barbara Swell of Asheville, N.C., Laura Wright of Montpelier, Va., their spouses, and eight grandchildren.

Donations may be made in her name to the Tuckahoe Volunteer Rescue Squad, 1101 Horsepen Road, Richmond, Virginia 23229.

Denise Stelloh

By Bob Stelloh

Denise 'Deni' Stelloh died peacefully on August 13, 2008, at age 71, in the company of her husband and three of her best friends. She is deeply missed by her husband Bob Stelloh, daughter Michelle Stratton, sister Paulette Sager, brother Jack Harang, Bob's daughters Kathleen and Jennifer Stelloh, and scores of loving friends.

Deni was a beautiful, passionate, gracious and talented woman who lived life to its fullest. Born and raised in Long Island, New York, courses at the University of Arizona were the prelude to an entrepreneurial career as colorful as she was. She traveled the world as a stewardess with Pan-Am, before she began as an account representative for Medical Billing Services, Inc., in Oakland, California and rose to become its President. She began a dog training company in Maryland, and a fashion consulting company and a contract bridge club in North Carolina. She was superb at making new friends, and at finding new interests and challenges to learn about and master.

Deni and Bob became interested in azaleas soon after they married and moved from Walnut Creek, California, to Potomac, Maryland, in 1970. Typical of her enthusiasm and boundless energy, Deni jumped into gardening with both feet, soon filling up their townhouse lot, front and back, with evergreen and deciduous azaleas. One of the first was 'Kintaiyo', rooted from a discarded spray after a Potomac Valley Chapter-ARS truss show and still in their garden today. Active in the Brookside Gardens Chapter-Azalea Society of America soon after it formed, Deni eventually became their show chairman for at least 10 years, and received their highest honor, the Frederic P. Lee Award, in 1988.

After a few years they moved from their townhouse to

▼ Denise Stelloh and 'Deni's Delight', May 4, 2006

Photo © Stelloh

a house on a half-acre lot. When that filled up with azaleas, they charged their real estate lady to "find us about five acres of oak trees with a house." Once there, they began planning and planting "Kairaku" (Japanese for "joint pleasure"), a large wooded hillside garden, just in time to be on tour as a young garden of promise for the 1988 ASA convention. Their tastes soon expanded to include rhododendrons, ornamental trees, conifers, groundcovers, vines, grasses—almost any ornamental plant. Her artistry and keen sense of color and texture helped create a garden of year-round interest. That was on top of being the office manager and convention planner for the International Sugar Research Foundation, and later becoming the office manager of a large ophthalmology office.

Deni's interest in people as well as plants soon led to annual garden parties. Together with her interest and skill in cooking, the parties also became famous for her refreshments as well as the flowers. After taking several years of Chinese cooking classes, the high point was a sit-down chicken curry dinner "made from scratch" for 80 garden guests—that involved picking apart (not cutting!) a lot of chickens. A student flutist hired for one of the garden parties became a very close friend and eventually came to live with us. That led to concerts in the garden by our own resident flutist and her musician friends for about five years.

Deni's friendship with George Harding, one of the founders of the ASA, led to her and Bob having lead roles in the design and planting of the George Harding Memorial Azalea Garden at River Farm, headquarters of the American Horticultural Society in Alexandria, Virginia, dedicated in 1994.

A love of animals was an important part of Deni's life, fostered by having been raised with Great Danes. It started with housing a Seeing Eye female between litters in California. That continued in Maryland with Natasha, a pre-trained guard dog when Bob started traveling. Later, Deni trained Elke, a long-haired German Shepherd, to earn a Companion Dog certificate when less than a year old, in 1981. After that she started a dog training company, and we always had one or two long-haired German Shepherds in our lives from then on. Our last, Kaitlin, was well known to all the dog walkers on our street and to our garden visitors in Hendersonville for her sweet disposition and friendliness, until she died of cancer in late 2007.

Upon retirement, the Stelloh's followed such horticultural giants as Henry Skinner, Augie Kehr and John Creech to Hendersonville, North Carolina in 1996. They found two sloping acres of mature oaks, tulip poplars, pines, sourwoods and dogwoods, *R. maximum* and mountain laurel, and even a few native *R. calendulaceum, R. arborescens* and *R. viscosum*—with a house. Soon a more manageable one-acre Kairaku emerged, with over 600 mature plants from the old garden, in time to be toured on the 2001 ASA convention as another young garden of promise...and again on the 2008 ASA convention as a more mature garden. Deni thoroughly enjoyed "holding court" on the back deck to greet many of her gardening friends again at the 2008 convention, for, as it turned out, the last time.

Many good things happened between those two conventions-major additions and growth at Kairaku, Ikebana classes, annual open-garden tours, garden tours by local non-profit groups and artists, show chairman for the Southeastern Chapter-American Rhododendron Society for a number of years and receiving their Bronze Medal in 2001, opening a Color Works! fashion consulting company, and studying and passing a test to become a contract bridge director to teach bridge lessons and run her own Breakfast Bridge Club. She also had her own namesake deciduous azalea, 'Deni's Delight', registered in her honor in 2006.

Unfortunately, many bad things also began happening to Deni during those same years—breast cancer in 2003, a broken back during Hurricane Ivan in 2004, ever-worsening lung disease from the aggressive radiation therapy received to overcome her breast cancer, and a broken arm in 2008. She was admitted to hospice care in 2006. Although she graduated from hospice in 2007 due to an excellent support team and her fierce efforts in fighting her health problems, those problems had taken their toll. Deni had to gradually begin giving up her interests—first her gardening, then her cooking, then her bridge, and finally her life.

Deni loved life and lived it fully, enjoying people, animals, cooking, gardening and bridge. Her life was an inspiration to everyone she met. It was my privilege to have had that inspiration for 38 years.

Call for Articles

The Azalean needs articles about azaleas, their care, and their use in the landscape. Ideas for topics include:

- Articles describing new public gardens or special azalea collections being created in your area.
- Descriptions and photographs of Society members' gardens.
- Current research in azaleas being conducted at local universities, extension service gardens, or junior colleges.
- Information about azalea festivals and sales.
- Historic garden restoration stories.
- Articles about noteworthy azalea hybrid groups or new species or cultivar introductions.

Articles should be submitted as Microsoft Word documents. Illustrations are highly encouraged with color print photographs, high resolution digital photographs (minimum 300 dpi), slides, or black-and-white drawings.

Submission deadlines are: January 1 (Spring issue); April 1 (Summer issue); July 1 (Fall issue); and October 1 (Winter issue).

Submit articles to: Pam Fitch, Editor, ***The Azalean***, P.O. Box 632537, Nacogdoches, TX 75963 or e-mail theazalean@gmail.com.

Society News

Nominating Committee Report

The Nominating Committee presents the following candidates for the 2009-11 ASA Board. Please vote using the official ballot found on the wrapper of this issue. Ballots must be received by April 1, 2009.

Candidate for President

Aaron Cook teaches at Caldwell Community College where he splits his time teaching Anatomy & Physiology and Landscape Gardening. He earned Bachelor and Master degrees in Biology Education from Appalachian State University in Boone, North Carolina.

He has been an active member of the ASA since joining. He has helped the Vaseyi Chapter plan and run two successful National Conventions in 2001 and 2008. He has attended every National Convention since 2001. Aaron has served as a director and as vice president of the ASA.

He is an experienced field trip leader and has led trips for the Nature Conservancy, Sierra Club and ASA. He has led trips to the Florida panhandle, Big Bend National Park, and more than one dozen birding and ecology trips to the Outer Banks.

He has taught short courses in native plant identification and native plant propagation for Western Piedmont Community College, Mayland Community College, Wilkes Community College and Caldwell Community College

Aaron married his wife, Lisa, in 1987. They have two children, Kaitlyn, age 18, attending college at the University of North Carolina Chapel Hill and Matthew, age 14. Valdese has been their hometown for 18 years. They are active members in Cornerstone Baptist Church, where Aaron has served as a Deacon, the Brotherhood Director and Sunday School teacher for college-age students.

Candidate for Vice President

John Migas lives in southwestern Michigan off the beautiful shores of Lake Michigan. A carpenter by trade since 1978, he operates a small nursery and landscape service in the Saugatuck-Douglas-Holland area. He is currently president of the Lake Michigan Chapter of the ASA and has just completed three terms as president of the Midwest Chapter of the American Rhododendron Society.

Candidate for Treasurer

Dan Krabill has been a member of the ASA since 1987. He was vice president of the Northern Virginia Chapter in 1997-98 and 2003-04, and president in 1999-2000 and 2005-06. He has served as ASA Treasurer since 2007.

He grows approximately 1,100 varieties of azaleas at his home in McLean, Virginia, including the great majority of the Glenn Dales. He has published an article "Photographing the Glenn Dale Azaleas" in ***The Azalean***, and has distributed a CD consisting of digital photos of most of the Glenn Dale azaleas.

Dan is a management consultant to the banking industry. He has a bachelor of arts degree in mathematics from Miami University, and a master of business administration degree from Harvard with a concentration in finance.

Candidates for Director

Dr. Joe Coleman is an ardent gardener and collector of azaleas. He and his wife, Donna, have a four-acre garden featuring thousands of varieties of beautiful plants.

Starting with their original home, Joe discovered the wonder of azaleas in the garden, particularly the fact they didn't have to be mowed weekly. This fact led to growing pinestraw islands that had to be filled with a greater variety of flowers.

After meeting George Harding in the late 1970s, Dr. Coleman joined the ASA. Over the years, he has served as a director of both the ARS and the ASA, and acted as chairman of the 1984 national ARS convention. He has served in numerous local offices, presented numerous talks, opened his garden to annual cutting parties, dabbled in hybridizing, and served as chairman of flower shows. Today, he continues hitting on friends for new and interesting cutting material and hounds nurserymen to provide more and better azaleas.

Eugene "Gene" A. Stano, Jr. was born and raised in Apopka, Florida. He and his wife, Lynn, have two college-aged daughters.

His love of azaleas began with indica varieties while working as a landscaper and nursery worker. He has traveled and lived in several different areas across the United States, giving him the opportunity to meet and work with other people who share his interest in azaleas.

Stano currently lives in western North Carolina where he held teaching positions at a local community college, held horticulture therapy classes with residents in long-term care facilities, and taught community continuing education classes. He also had an integral part in writing and administrating grants for the development of the tissue culture lab to study and develop protocols for native azaleas at Mayland Community College in Spruce Pine.

Currently Stano serves as the Arboretum Team Leader at Haywood Community College. His responsibilities include the development and maintenance of the college's 85-acre arboretum. He is also implementing a plan to develop azalea gardens throughout the college campus.

Maarten van der Giessen majored in Chemistry at the University of South Alabama. He was the assistant manager at Cottage Hill Nursery in Irvington, Alabama, from 1987 to 1990 and has been manager and vice president of van der Giessen Nursery in Semmes, Alabama, since 1990.

He is a past president of the South Alabama Nurserymen's Association, a past board member of the Azalea Society of America, and current president of the Mobile Botanical Gardens.

Annual Index

The Garden and Hybridizing Program of Bob Stewart

Carolyn Beck—Oak Hill, Virginia

The Stewart garden offers a unique environment for the azalea enthusiast to enjoy. It has an extensive azalea collection representing many hybrids with impressive diversity, most of which will not be found in any garden center. Visiting this garden is also an opportunity to observe an avid hybridizing program in progress, and a chance to gather ideas about innovative plant care techniques.

Bob's gardening at his location in Springfield, Virginia, began nearly 50 years ago, shortly after he finished building a new home for his wife, Betty, and their three children. With the construction of the house complete in 1960, Bob was ready to landscape. Fortunately for us, he had just discovered the world of azaleas, becoming enamored with them after seeing a few commonly known varieties.

There were two major challenges to the site, though. First, the property was situated on a considerable slope. Second, the soil was thin, overlying hardpan, a hard, compacted layer through which roots can't grow. It was not a hospitable environment for our ericaceous friends, or most plants for that matter. However, a nice stand of trees and an underground spring brought the promise of gardening possibilities.

After installing an extensive system of stairs to access the various areas, Bob set out to make a safe haven for his Kurume acquisitions. He covered a hillside near the new house with a generous layer of topsoil and the necessary amendments. Over time, the collection grew as he discovered more and more interesting bloom types. Eventually, the hillside included Back Acres, Satsuki and many other hybrid groups. The results can be seen on the cover of Galle's book, ***Azaleas***.

Growing up in Amherst, Massachusetts, Bob had gained experience in the family carpentry business and had been involved in the care of their vegetable garden at home. After time in the Navy, Bob spent many years in the construction business. All these skills, along with his innate curiosity, intuitive nature, and conservationist tendencies, helped him solve the gardening problems he faced in Virginia.

Photo Carolyn Beck

▲ Bob Stewart

▼ 'Ashley Ruth'

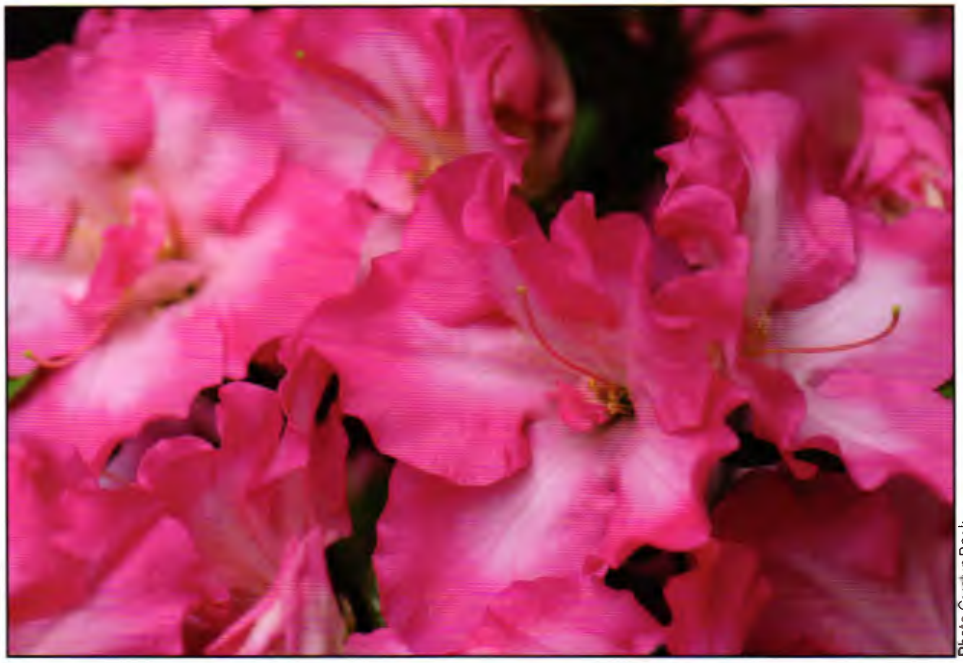


Photo Carolyn Beck

Importing tons of soil for the entire yard did not seem like a viable option

Photo Carolyn Beck

▲ 'Amherst'

Photo Carolyn Beck

▲ 'Jennifer Nicole'

▼ 'Jake Frey'

Photo Carolyn Beck

to Bob. Plus, root invasion became a problem in the initial plantings, since trees took advantage of the expanded growing medium. Container gardening was the solution. Bob created containers from recycled fifty-five gallon drums. He cut them in half, drilled holes for adequate drainage, and then cleverly disguised them by applying a naturally-aged wood exterior. By propping up the front side, the containers could be placed on the level no matter what the angle of the slope. There were also the added advantages of diminished soil requirements, the avoidance of tree root access, and portability.

Bob enjoyed the outdoors and the sense of accomplishment gardening gave him. It made for a great diversion from the workplace. The Azalea Society provided both the information and the inspiration to continue his collection. One day he found himself wondering what would happen if he were to cross azalea plants that had more exciting flower

▼ 'Kaitlin Elizabeth'

Photo Carolyn Beck

▼ 'Allison Ann'

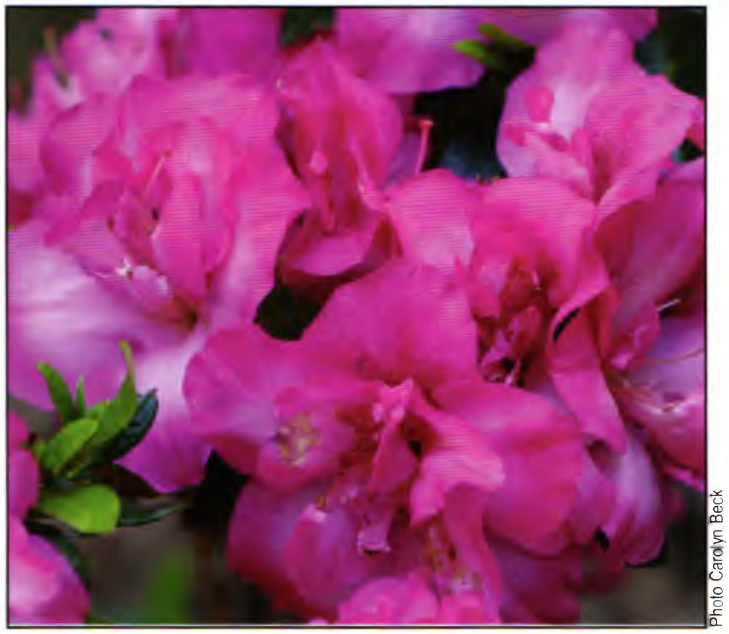


Photo Carolyn Beck

▲ 'Sheri Ann'

▲ 'Sarah Jessica'

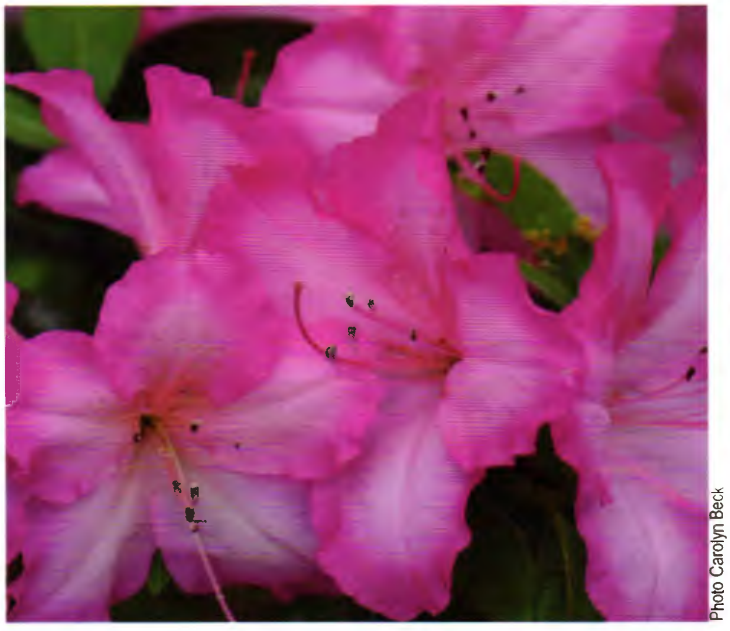
types but might be on the more tender side, with those of a hardy and reliable nature. Starting with a few crosses in 1990, Bob increased the number each year, and soon had thousands of seedlings to evaluate.

To provide winter protection for the young plants, Bob designed and constructed a series of modular cold frames that could be adjusted to accommodate plants of various sizes. He came up with innovative ways of labeling and kept meticulous records. An avid reader, he combed the literature for better ways to care for azaleas and then experimented with different types of soils, fertilizers, sprays, pruning, and propagation techniques to determine what worked best. With his spirit of generosity, Bob shared this information, as well as plants and cuttings, with those who were interested.

Many of the seedlings from Bob's crosses can take your breath away; wonderfully exciting blooms and outstanding

▼ 'James Stewart'

▼ 'Debra Lee'



▼ 'Betty Ellen'

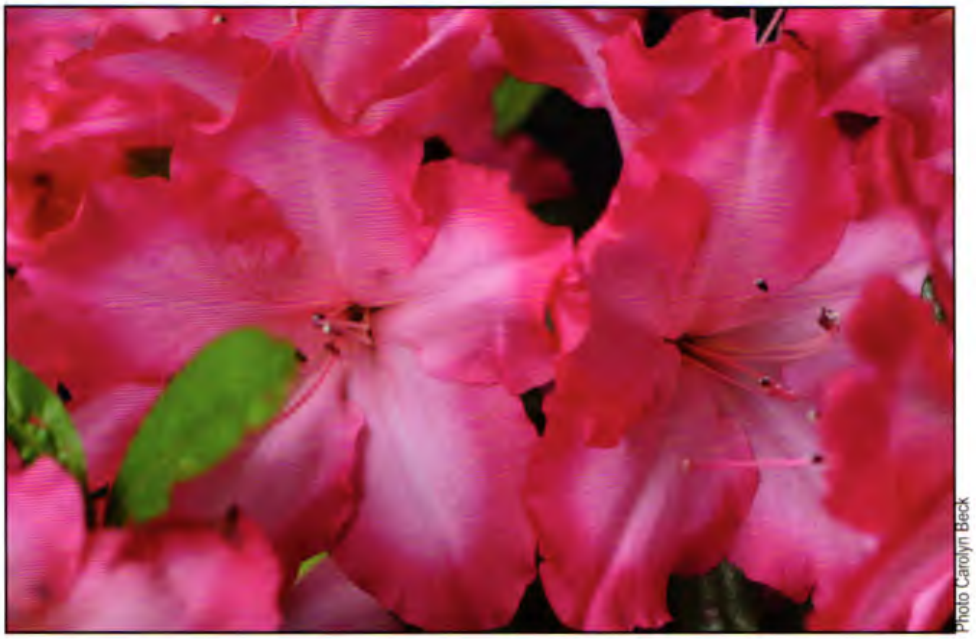


Photo Carolyn Beck

▲ 'Grace Katherine'

▼ 'Briana Murin'

Photo Carolyn Beck

foliage on plants with great form and improved hardiness. He has named and registered quite a few hybrids, and there are many others under number that are still being evaluated.

The first group of introductions from his hybridizing program was named mostly for family, since this is the core of his life. One of his favorite azalea creations, a pale shell-pink single with a lighter center identified as RBS-27, he named 'Betty Ellen' for his wife of 60 years. The azalea 'Rob Bruce' (RBS-15), with very large, variegated single flowers of white striped with purple, is named for their son. 'Debra Lee' (RBS-49), a ruffled pink and white bicolor, and 'Karee Lynn' (RBS-66), a full double of coral-pink, are named for their two daughters.

The Stewarts have nine grandchildren, and Bob has named an azalea for each of them. The popular 'Ashley Ruth' (RBS-1) is a semi-double bicolor of white with deep bright pink edges. 'Jake Frey' (RBS-5) is a hose-in-hose white with occasional pink markings and solids. 'Sarah Jessica' (RBS-6) is quite variable, having very large single, pale lavender blossoms with lighter centers and a chartreuse blotch, although some flowers have deeper lavender flecks, sectors, and some solids, too. 'James Stewart' (RBS-7) is a striking single bicolor of white bordered in deep bright pink. 'Kaitlin Elizabeth' (RBS-14) is semi-double and quite variable, having white blossoms with light pink stripes and sectors and a chartreuse blotch or pink blossoms with irregular white edges and a dark rose blotch. 'Jennifer Nicole' (RBS-33) has pale pink, semi-double blossoms with irregular white petal edges, occasional deeper pink sectors, and solid colors, all with a dark rose blotch. 'Allison Ann' (RBS-47) is a semi-double of dark pink with a lighter center. 'Grace Katherine' (RBS-60) is a large single bright pink bicolor with a soft pink center and 'Briana Murin' (RBS-63) has semi-double pale lavender-pink flowers with lighter centers that remind one of an orchid.

'Sheri Ann' (RBS-37), namesake of their daughter-in-law, is a large pink single with white centers and contrasting deep pink blotch. The only plant to date not named for a family member is a striking pure white single 'Amherst' (RBS-4), named for the town where Bob grew up. Many more fantastic selections from Bob Stewart's hybridizing program are yet to be named and await their "coming out party." We are grateful for Bob's legacy and for the many other contributions he has made to members of the azalea community.

Carolyn Beck *and her husband, Paul, live in Oak Hill, Virginia. They are members of the Northern Virginia Chapter. They attribute much of their enthusiasm for and knowledge of azaleas to the mentoring of people like Bob Stewart.*