THE AZALEAN

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THE AZALEAN

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Address all editorial and business correspondence to The Editor, *THE AZALEAN,* 737 Walnut Avenue, North Beach, Maryland 20714.

PRESIDENT'S LETTER

Robert W. Hobbs

I am very pleased to welcome the new Dallas Chapter to the Azalea Society of America. The by-laws of the new chapter were approved at the May 21 Board of Governors meeting. Congratulations to Naud Burnett who was key to organizing this chapter.

Organization of this chapter is an example of what we must do in order for our society to grow. Our membership is about 750 (see article in the Society News Section). Thus, the membership has remained essentially constant the past several years. I believe that growth is essential for the health of our society, and is necessary if we are to achieve the aims of our society. Growth is essential, in order to obtain an influx of new ideas and the infusion of fresh blood into the organization—we need a source of new officers, new committee chairpersons, new committee members for chapters and the National Organization. We need new ideas for projects, new ideas for articles for *THE AZALEAN* and new ideas to support and promote the aims of the society. And, speaking of *THE AZALEAN*, our aspiration to be able to publish color photographs can probably only be achieved through an economy of scale derived from increased membership.

The society has printed a new descriptive brochure and membership application. Copies are in the hands of all chapter presidents from whom you can obtain copies. Or write to me for copies. They should be available from ASA members, from public gardens, from plant centers and nurseries.

As the 1989 azalea season draws to a close, it seems to me that the interest of homeowners, nurserymen, and landscapers in azaleas is increasing and little wonder. How appropriate that these beautiful springtime flowers adorn our gardens and public places.

I challenge you to give the enclosed brochure to a potential new member. Please do not put it in the trash can or on your desk for future reference. See that it gets into the hands of a friend, a neighbor, a business colleague, or a local plantsman. If only one out of five brochures results in a new member in 1989, we will have achieved a good measure of the membership increase that we urgently need. Accept this challenge—maybe we can do better.

TECHNICAL ASPECTS OF EVERGREEN AZALEA PROPAGATION

By
Stephen Schroeder
Holly Hills, Inc.
Evansville, Indiana

We began propagating evergreen azaleas in the early 1970's; about the same time we proceeded with a very intensive hybridizing program. By 1984, through natural selection we were awarded 38 different evergreen azalea hybrids which we believe to be the hardiest on today's market. In the paragraphs to follow I will discuss the technique we follow to produce a finished azalea ready for market.

To begin with, we propagate all of our azaleas outdoors in a Quonset-type structure in late June. The Quonset hut is made of galvanized steel pipe bows 1″ diameter set 4′ apart and secured to a 2″ × 12″ wolmanized treated lumber base which is anchored to the ground. The Quonset hut is 12′ × 24′ and 6′ in height at the center. We have constructed two propagation beds on the floor inside using treated lumber and raised 6″ off the floor. Each bed is 48″ x 16′, and between the beds is a 3′ isle. Crushed stone is applied to the floor around the beds at a depth of 2″. A layer of course wood chips is then placed in each bed to further raise the bed level above the isle. After the floor and beds are graded nearly level, a layer of 50% shade cloth is placed over the top of the Quonset structure. A door is constructed on one end of the Quonset hut, and the other end is finished off in lumber braces. Down each side and on the top of the structure there are three 1″ galvanized purlins. The top purlin supports the 1/2″ P.V.C. mist line. On this mist line we have installed two Olson spinner sprinklers. This type of sprinkler produces a coarser mist than the usual misting nozzles, and we find it very satisfactory for using outdoors in propagation because wind will not affect its performance. The mist line is connected to an electric solenoid valve which is controlled by a repeat timer which in turn is controlled by a 24-hour program time switch.

After giving a brief discussion of the propagation structure, we can proceed with the preparation of our flats. We use a 14″ × 20″ × 4″ deep Dyna flat. The Dyna flats have excellent drainage provided and are made of an indestructible material that will last many seasons. The flats do not need to be sterilized, just washed before each season. To each flat we add a mixture of two parts pine bark to one part course perlite. We find this medium to be much superior to the standard peat and perlite because it is naturally sterile and drains much faster. The

flats are filled to 1/4″ of the top rim and are then placed on the beds in the Quonset hut. Each bed will hold 30 Dyna flats. After the 60 flats are in place the sprinklers are turned on to settle the medium. The mist timers are then set for 15 seconds on and 7 minutes off from 5:00AM to 9:00PM. We leave this mist cycle operating for one week prior to sticking any cuttings. This assures us that everything is operating before we proceed with the cuttings.

Now we are ready to collect the cuttings for propagation. We take our cuttings off young vigorous stock plants approximately one year of age. The cuttings are taken in late June in the morning hours between 6:00AM and 9:00AM. At this time the plants have made 3″ - 4″ or more of top growth and have just began to firm up with the terminal flower bud in its premature stage. We use a pair of sharp shears to remove the cuttings in 3″ to 4″ lengths depending upon the hybrid. They are placed in a poly bag with an identification tag and slightly moistened. After taking all the cuttings for that day we prepare them for "sticking". We strip off two inches of leaves at the base by hand. No rooting hormone is applied, as we find this unnecessary for evergreen azalea propagation. We also find by propagating outdoors we need no fungicide drenches, and the plants become more adapted to outside temperature changes. After a number of the cuttings have been prepared they are transported in a flat covered with damp burlap to the propagation structure. A 3/4″ thick plywood board is placed over the empty flats in the bed for kneeling on when sticking the cuttings. Before sticking the cuttings the medium in the flats is loosened by hand which allows for easier insertion of the cuttings. This also increases the oxygen content of the medium which is so important in the early rooting stages. Starting from left to right the cuttings are struck 1″ apart in rows at a depth of 1-1/2″. Each flat will hold about 70 cuttings. The cuttings are then labeled and watered in with the use of a water breaker rose-type nozzle. This step will ensure good stem to medium contact. When the flats are all filled the timer for the mist cycle is again checked for the correct amount of "mist burst". We find at the beginning, a 15 seconds on and 7 minutes off from 5:00AM to 9:00PM is ideal. This keeps the unrooted cuttings in a turgid condition. If all goes well rooting will begin in about 2-1/2 weeks. Once rooting begins, it is very important to start cutting back on the mist cycle. At the end of three weeks we reduce the mist cycle to 15 seconds on and 10 minutes off from 6:00AM to 8:00PM. This cycle will remain unchanged for the following three weeks. At the end of six weeks the cuttings are well rooted and the mist cycle is reduced to 15 seconds on and 30 minutes off from 10:00AM to 3:00PM. By the end of eight weeks the mist cycle is reduced to three times a day and finally discontinued on the ninth week. The cuttings by this time will have made some top growth, so we give them a drench of Peter's 30-10-10 at the rate of eight ounces per 50 gallons of water. This one time fertilization will off-set any leaching that has occurred during propagation. During the later part of summer and early fall the cuttings will make about 1″ - 2″ of top growth before going dormant for the winter.

The young azaleas will remain in the Quonset hut for their first winter. The Quonset hut is covered with three layers of six-mil clear-poly film. A pole blower is installed to circulate air between the second and top layers. This is very helpful as it brings the warm air from the inside and distributes it in between the two outside layers. Two Titan electric milkhouse heaters are used for heating the Quonset hut. Each heater is placed at either end of the Quonset and temperature is controlled by two G. E. thermostats which are set at 38 degrees F. This is a very inexpensive way to heat if the Quonset hut is well insulated with the protective air layer.

When spring arrives, usually around mid-April here in the lower Ohio River Valley, the poly cover is removed and the portable equipment is stored away. The young azaleas will begin to push into spring growth, and with this we begin to fertilize with Peter's 30-10-10 at the same rate previously mentioned. The plants respond very well by putting on good strong top growth by the first of May. During May the plants are pruned back to produce well branched liners for transplanting later on.

After a second flush of growth is completed, the liners are ready for transplanting. The plants are removed from the flats and are well rooted and very well branched from the base. The azaleas are then transplanted into the same size of flats they were rooted in. We transplant 15 azalea plants per flat in straight pine bark. In the past years we used 4-1/2″ pots, but found out that the azalea became too "pot bound" and were difficult to transfer later.

When this first transplanting is completed the flats containing the azaleas are placed in the field beds where they are shaded with 50% shade cloth for ten days. After ten days the shade is removed and a light application of 12-6-6 Nursery Special is applied and watered in. By the end of the growing season the plants will have developed into 4″ - 6″ well branched liners with an "untangled", strong root system.

For their second winter the azaleas are placed in a pole barn or in the greenhouse if space is available. Some of the azaleas are sold at this stage, but what remains will be transferred into Lerio #015 containers or planted into a field bed the following June. The container plants are sold the following spring and are usually 15″ - 18″ well budded stock. The field grown azaleas are harvested after three years as 18″ - 24″ budded, balled and burlapped.

THE BRIGHTON AZALEA GARDENS

Michael J. Grear
Brookeville, Maryland

[As the 1989 azalea season comes to a close, it is time to begin planning for 1990 garden tours. This is the first of a series of articles describing public gardens that focus on azaleas, ed.]

The primary purpose of this brief article is to make readers of *THE AZALEAN* aware of the Brighton Azalea Gardens and to invite any and all to visit us in late April or early May should you be in the Baltimore/Washington, D.C. metropolitan area. Being a single-season garden it is only open during this time. This beautiful five-acre garden—with over 22,000 azalea plants—is located on the mixed-hardwood forest covered shore of the Washington Suburban Sanitary Commission's 800-acre Triadelphia Reservoir in Brookeville, Montgomery County, Maryland. The Brighton Dam Azalea Garden was planted in bed-row fashion in order to obtain a mass multi-color effect. Varied types yield a breathtaking gradual block display. When in bloom, this single-season garden is a veritable quilt of color beneath a canopy of mixed-species hardwood trees, including dogwoods. Pedestrian and vehicular pathways meander through the garden, where an elevated patio, gazebo, and strategically placed benches provide scenic and panoramic views of the colorful azaleas and the woodland-surrounded reservoir. Often the azaleas are reflected in the reservoir's clear, smooth surface which allows for some wonderful photographs to be taken from the nearby Brighton Dam bridge-deck sidewalk. Recently this public garden was included in botanical photojournalist Wauneta B. Wine's new book entitled: *Gardens for All Seasons—The Public Gardens and Arboreta of Maryland*.

HISTORY

The Brighton azalea plantings were started in the fall of 1949 by the late Raymond W. Bellamy, Sr., former chairman (1951–1955) of the Washington Suburban Sanitary Commission. Mr. Bellamy desired to see the shorelines of the reservoir planted with azaleas, dogwoods, and other flowering plants. Cuttings were obtained from the Norfolk Azalea Gardens in Virginia and rooted in 1950 for shoreline plantings. The project moved slowly, with only 600 plants surviving on the shores. But today Mr. Bellamy's dream has been realized in the thousands of azaleas at Brighton Dam.

In 1958, Paul H. Hancock, then WSSC Watershed Supervisor, was advised that he would be in charge of all azalea propagation and shoreline plantings. With a great deal of help from Andrew N. Adams, Jr., owner of Ten Oaks Nursery in Clarksville, Maryland, Mr. Hancock started a greatly expanded propagation program. Most of the cuttings came from Norfolk Azalea Gardens and the Glenn Dale Sanitarium Gardens, Glenn Dale, Maryland. Some plants were obtained from the National Arboretum in Washington D.C. During 1958–61, the azaleas were still being raised for shoreline plantings, and many were planted not only around the Triadelphia Reservoir, but also around the newer T. Howard Duckett (Rocky Gorge) Reservoir. Unfortunately, vandals and thieves removed more than one-third of the plants! To deter this, Mr. Hancock designed an azalea garden in 1962. By confining the plants to one area, they could be better protected yet still be accessible to the public. To provide a foundation for the WSSC gardens, the Ten Oaks Nursery donated more than 300 mature plants. Since 1962, the gardens have flourished and have grown to contain over 22,000 beautiful plants. On one recent Mother's Day Sunday alone, more than 6,000 visitors came to the Gardens. They are generally recognized as one of suburban Maryland's finest spring-time showplaces.

CURRENT SPLENDOR

As Wauneta B. Wine states in her book, "Those original azaleas, and the ones that followed, survived and thrived. Currently, they provide a living wall of color close at hand or a colorful carpet beneath the trees when viewed from a distance. Glenn Dale, Kurume, Indicas, Macrantha, Gable and Mollis are among the azalea varieties that reside in the five major divisions of the garden."

"The Kurume Azaleas kick off the spring season. There are seven varieties at Brighton from the shell pink of 'Coral Bells' to the scarlet of 'Hinodegiri'. The most impact grower of the group is Snow, pure white. Midseason bloom is provided by the Gable and Mollis hybrids, as well as 'Indica Rosea'. 'Herbert' and 'Royalty' provide deep colors, 'Herbert' with large frilled and ruffled flowers and 'Royalty' with double flowers of bright purple. The deciduous Mollis hybrids present beautiful yellow and orange to orange-red colors. The plants are upright, tall, and neat of habit. 'Glacier' (Glenn Dale) is another midseason azalea with large growth and white blossoms. Another Kurume, 'Salmon Queen', picks up the time line as a very late bloomer. It is a very large plant with salmon colored blossoms. Joining 'Salmon Queen' at the end of the season are 'Indica Magnifica' ('Mucronatum' variety - spotted and flushed pink), 'Indica Alba' ('Mucronatum' - white), and 'Macrantha' (salmon red and very late)."

SPECIFIC VARIETIES IN BRIGHTON AZALEA GARDEN

Glenn Dale Azaleas

(1) 'Glacier' - Very large, leafy green plant, white bloom - mid-season

We have many other varieties of B. Y. Morrison's azaleas in our gardens. These plants came as cuttings from the beautiful plants at the Glenn Dale Sanitarium. After they had been rooted, we discovered that they were

culls or throwaways from the USDA Plant Introduction Station at Glenn Dale, Maryland and were unnamed varieties.

Kurume Azaleas

(1) 'Coral Bells' - Shell pink, shaded darker, early
(2) 'Hino-Crimson' - Single, brilliant red, nonfading, early
(3) 'Hinodegiri' - Single, brilliant scarlet, heavy bloomer, early
(4) 'Hinomayo' - Single, soft pink, foliage small, plant tall, early
(5) 'Pink Pearl' - Salmon-rose, with light centers, early
(6) 'Salmon Beauty' - Salmon pink, light green foliage, early
(7) 'Salmon Queen' - Large plant, salmon colored blossoms, very late
(8) 'Snow' - Snow white, very compact growth, early

Azaleas - Miscellaneous, Hybrids and Others

(1) 'Indica Rosea' ('Mucronatum variety') - Large flowers, flushed pinkish white, mid-season
(2) 'Indica Alba' ('Mucronatum') - Single, pure white, broad grower, late
(3) 'Indica magnifica' ('Mucronatum'' variety) - Single, large flowers, spotted and flushed with pink, late
(4) 'Macrantha' - Single, salmon red, very late

Joseph Gable's Hybrid Azaleas

(1) 'Herbert' - Semi-double, large frilled and ruffled, dark crimson, purple, mid-season
(2) 'Royalty' - Double, bright purple, mid-season

Mollis Hybrids

We have a few deciduous varieties planted near the main entrance to the gardens. These plants are upright and tall. They have very large flowers and a very striking range of colors from yellow-orange to orange-red. They are mid-season bloomers.

Robin Hill Azaleas

In the fall of 1988, as part of a bed replacement program, Mr. Emile Deckert, of the Azalea Hortico-Nursery of Fine Azaleas in Hampstead, Maryland supplied 40 individual plants of the new (to us) lower-growing plants known as Robin Hill evergreen azaleas. It is hoped that these will require less pruning to hold down overall size than the varieties that were popular during the 1960's and 1970's.

Accessibility

Hours: Daylight - 9:00AM to sunset, seven days per week

Single Season: Mid-April to end-of-May

Services: An electric cart is available for the elderly and the handicapped. The pedestrian paths and vehicular access road systems are not paved and thus are not accessiable to wheel-chairs. On weekdays only, automobiles are allowed in only for the convenience of elderly or handicapped visitors.

Admission: Free!

Information: The adjacent Brighton Dam picnic area is closed on weekends only during the blooming season to provide parking space for garden visitors. Peak blooming season information is available by telephone (301) 774-9124. The gardens are closed the rest of the year. For use of the electric cart for the elderly and handicapped, please call in advance.

Directions

From Washington, D.C.: From the Washington Beltway (495) take exit 25, New Hampshire Avenue (Maryland Route 650), north. Follow Route 650 through Colesville, Ashton, and Brinklow to Brighton Dam Road. Turn right on Brighton Dam Road and continue 1.1 miles to the Brighton Dam parking area on the right. The Garden is directly across the street on the left.

From Baltimore, Md.: From the Baltimore Beltway (695) take exit 27 or exit 28 west to Route 29. Turn south on Route 29 to Route 108. At Route 108 turn right (west to Clarksville). In Clarksville turn right on Ten Oaks Road and follow for 0.6 miles where it is joined by Brighton Dam Road on the left. Turn left on Brighton Dam Road and proceed 3.3 miles until you come to the Brighton Dam parking area on the left. The garden is directly across the street on the right.

Summary

I am indeed fortunate for it is an extreme pleasure and honor as well as quite an educational experience to be involved as curator of this garden as part of our watershed forestland and reservoirs management duties. Again, I heartily invite all Azalea Society of America members and journal readers to come visit us in late April/early May! We have 20,000 - 50,000 visitors each season with Mother's Day Sunday being the peak visitation day. The majority of our visitors frequently remark on the splendor, beauty, serenity and magnificence of the display! We hope you'll enjoy it too!

Michael J. Grear is the WSSC's Watershed Manager. He is a native of Washington, D.C. having attended the Sidwell Friends School, Walt Whitman High School and earned a Master of Science Degree in Conservation of Natural Resources at the University of Michigan's School of Natural Resources in 1973.

SALT TOLERANCE OF AZALEA CULTIVARS

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[In its complete form, this paper describes a technique for determining the tolerance of azalea cultivars to salt. Salt in this context is not necessarily table salt or sea salt, but is a wide range of chemical compounds, especially fertilizers. Salts interfere with osmosis which is an essential process by which roots of plants are able to acquire moisture from the soil. The paper in its entirety describes the experimental technique and its comparison with other techniques. The technique used, the plasmolysis technique, involved the removal of growing root tips, subjecting them to a salt solution and the subsequent examination of these tips under a microscope to determine whether the cell structure had been changed due to the loss of water. As presented here, the paper is abridged, but if you are interested in the details, the original paper, "Salt-Tolerant Azalea Cultivars" was published in the Journal of the American Society for Horticultural Science, 113(1), January 1988, 79-84, ed.].

Almost all organisms contain small inorganic ions and organic molecules that are osmotically active and responsible for their salt tolerance (15). The composition of these osmotically active molecules differs greatly among organisms, complicating the measurement of salt tolerance by chemical analysis (13). The concentration of these molecules determines the osmotic potential of the cell, which, in the case of root cells, must be equal to or greater than the soil moisture osmotic potential to prevent plasmolysis (1).

Plasmolysis [plasmolysis is the shrinking of the cell due to a loss of water by osmosis, ed.] should be common to all types of plants regardless of the materials providing osmotic potential within the cell; yet, only one report indicated plasmolysis was used to determine salt tolerance. Repp et al. (12) used sections of stem tissue immersed for 24 hours in salt solutions followed by 3 hours of slightly hypertonic glucose. The appearance of normal plasmolysis was taken as an indication of life and salt tolerance. Neither this nor any other simple method has been widely accepted as a means of measuring salt tolerance, but recent advances (1, 13, 15) in understanding salt tolerance indicate that such techniques could be developed.

The cultivated azalea is a diverse combination of species and hybrids, of which thousands of cultivars have been named and hundreds of cultivars are propagated and grown (3, 4, 9, 14). The conventional method of measuring salt tolerance consists of irrigating plants with water of varying salt concentrations and measuring growth rate or leafburn. These parameters may be symptoms of conditions other than high concentration of soluble salts (13). Because of the sensitivity of azaleas to leafburn from other conditions, reliable salt tolerance data have been difficult to acquire. Difficulty in obtaining reliable data, combined with the large amounts of time and effort required for accomplishing this type of research, have provided little incentive for determining salt tolerance in more than a few cultivars. This research was conducted to find a rapid method of determining salt tolerance and to use it to replace the conventional method for evaluating azalea cultivars.

Azaleas as a group have been considered salt-sensitive and grow best when not fertilized heavily (2, 8). Until recently, up to 5 years were required to grow plants to salable sizes. Techniques for accelerating growth have shortened this period considerably (5), but have not decreased cultural problems. Azaleas, more than other nursery crops, are damaged or killed by excessive fertilization or poor water quality. Published papers on azalea salt tolerance (6–8, 10, 11) cover fewer than a dozen cultivars and do not reveal the full range of tolerance of the cultivated azalea. This paper reports the use of root cell plasmolysis as a means of testing azaleas for salt tolerance, a comparison of this technique with the conventional testing method, and an evaluation of tolerance of commonly grown cultivars.

Twenty-one azalea cultivars were evaluated for salt tolerance more than once during the season to determine the variability of results over time from the plasmolysis technique (Table 1). The amount of variability between cultivars was significant, 38 times greater than the variability within cultivars, providing support for this technique as a means of determining salt tolerance of azaleas.

Unlike previously reported methods of determining salt tolerance of azaleas (6-8, 10), the method described here measures plasmolysis of the cytoplasm, a very early response of the plant to salt. Azalea roots were found to be particularly well-adapted for this observation, and responded to concentrations of salt ranging from those used for fertilization to those known to be in the toxic range (2). Although plant condition and age of roots were observed to influence results, the selection of young root tips for analysis eliminated most variation and provided the necessary reproducibility for acceptance of this technique. Measurement of the response of root cells to salt should become the preferred method of measuring salt tolerance in azalea, since the failure of the root to survive a particular concentration of salt eventually will affect adversely the whole plant.

Comparison of the plasmolysis technique with a conventional method. Only a few reports (7, 8, 10, 11) involved more than one azalea cultivar from which culti-

Table 1. The lowest concentration of sodium chloride required to plasmolyze root tip cells.

Cultivar	Month of evaluation		
	June	July	August
Coral Bells	1*	1	1
Higasa	1		1
Mother's Day		1	1
President Claeys		1	1
Pink Pearl		1	1
Vuyks Scarlet		1	1
Hershey's Red	2	1	1
Alaska		1	2
Poukhanense		1	2
Delaware Valley White	2	1	1
Everest	2		2
H. H. Hume	4	3	3
Purple Splendor	3	4	4
Pride of Mobile		3	5
Damask Rose		5	5
Duc de Rhan	6		6
George Lindley Tabor	7		6
Pride of Dorking	7		7
Glacier	7		8
Formosa		7	9
Macrantha Pink	8		8
Variance between cultivars	6.2	3.6	7.5
Average variance within cultivars	0.15		
Ratio of variance between cultivars to that within cultivars 38:1			

* Electrical conductance in $dS\text{-}m^{-1}$. The concentration in millimoles when multiplied by 10.

var differences in salt tolerance could be determined. Available information on azalea salt tolerance was therefore inadequate for comparing with the plasmolysis technique. The number of cultivars was too small and conditions varied considerably between experiments. Hence, both the conventional method and the plasmolysis technique were used on the same cultivars for comparison.

The salt treatments for the conventional method were begun immediately after transplanting and continued for ten weeks. New growth emerged within a few days, indicating recovery and establishment. Growth continued fairly consistently, especially under the high fertilization rates. Unfertilized (zero treatment) plants grew well soon after transplanting, but leaves were light-colored and later growth was slow. At the low fertilizer concentrations (the first four contained increasing concentrations of nutrient salts only), growth increased with salt concentration; and, at high concentrations, growth decreased (Figure 1). Plants exposed to intolerably high concentrations of salts exhibited leafburn during early growth, which progressed to leaf drop and eventually death by eight weeks.

The soluble salts were expected to concentrate in the root mass to some extent because of surface evaporation between weekly irrigations. This concentration served to accentuate the point at which the plants were intolerant, since borderline plants were exposed periodically to and damaged by higher concentrations. Weekly irrigations, which were ample for supplying moisture, prevented salt accumulation. Thus, plants of low salt treatments withstood brief rises in the salt concentration without showing symptoms. The purpose of this research was served regardless of the concentrating effect of infrequent irrigation, since comparative salt tolerance ratings of the cultivars were obtained. The maximum concentrations of soluble salts under which these azaleas continued to grow should not be interpreted as the maximum concentration for growing azaleas. Irrigations more frequent than those used here would be expected to permit the use of higher salt concentrations and less frequent irrigations, lower concentrations (7, 8).

Two conventional methods have been used for reporting azalea salt tolerance: leafburn and suppression of growth rate. This research shows that the two ratings do not produce the same results. Leafburn evaluations are shown in Figure 2. Each cultivar rating was determined by the sharp break between the small percentage of plants with leafburn at low concentrations and the large percentage at high concentrations. A significant suppression in shoot growth was more difficult to determine because of its variability. 'Salmon Spray' and 'H. H. Hume' (Figure 1) declined rapidly following their highest rate of growth and were followed immediately by leafburn and death at high concentrations. Evaluation by either leafburn or the first significant decline in growth rate yielded somewhat similar results for these cultivars. 'Hershey's Red', 'Delaware Valley White', and 'Damask Rose' developed a growth plateau where large differences in salt concentration yield small differences in growth. Under this condition, the variability of growth between individual plants, the parameter used in calculating significance, became more of a determining factor than the decline of the average growth rate itself. Cultivars with uniform growth produced small but significant growth declines soon after the highest rate of growth. These cultivars were rated as intolerant, whereas cultivars with variable growth required a growth decline of a large magnitude, classifying them as salt-tolerant.

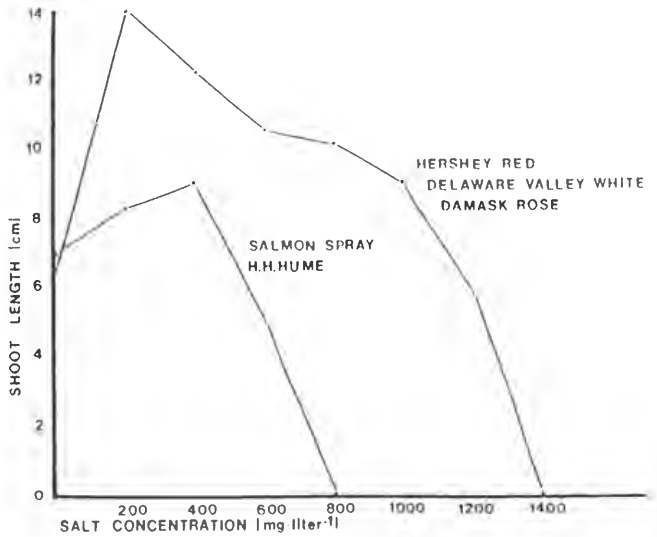

Figure 1. Average growth of five azalea cultivars over 11 concentrations of soluble salts. The cultivars were separated into two groups to illustrate the two types of growth responses. Average SE of the mean = 1.9.

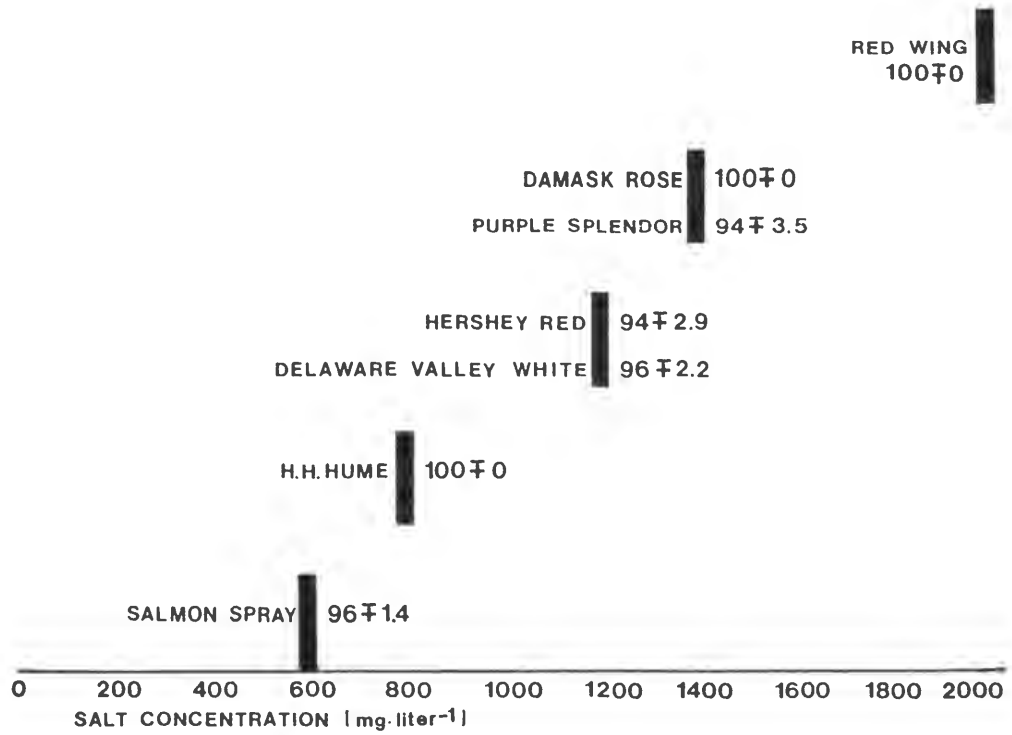

Figure 2. The comparative leafburn ratings of seven azalea cultivars in response to 11 concentrations of soluble salts. The values after the cultivar name show the percentage of plants with leafburn when exposed to the concentrations of salt greater than indicated by the point shown for each cultivar. The point shown for each cultivar is the lowest concentration producing leafburn.

Because of the difficulty in controlling variation of growth measurements, an evaluation using the first significant decline in growth was not reported.

Leafburn ratings (Figure 2) show that considerable differences exist between azalea cultivars. A three-fold difference in salt concentration was required to produce similar responses between 'Red Wing' and 'Salmon Spray', the two extreme cultivars. Penningsfeld (11) reported that *R. concinnum* and 'Hexe' were much more salt-tolerant than Kurume azaleas. 'Hexe' of Penningsfield's and 'Red Wing' (of this research) are Indica azaleas and salt-tolerant, whereas 'Salmon Spray', 'H. H. Hume' and 'Hershey Red' are Kurume or Kurume hybrids and tended to be more salt-sensitive. The ratings of this research agree with these previous reports (10, 11).

The leafburn and plasmolysis ratings agree in all except the Kurume cultivars (Table 2). 'Hershey Red' was one of the cultivars with a suppressed growth plateau (Figure 1). If 'Hershey's Red', as well as the other Kurume types, had been evaluated according to growth suppression, they would have been rated as an indistinguishable group. 'Salmon Spray' was the slowest cultivar to recover after transplanting and may have accumulated considerable amounts of salt before new growth began, making it more sensitive than other cultivars in the conventional comparison. Kurume azaleas appeared to be very salt-sensitive and occupied most of the salt-sensitive positions in the rating. 'Salmon Spray', which has a questionable heritage, may be slightly more salt-tolerant, as supported by the plasmolysis technique. Both techniques rated Kurume azaleas as being more salt-sensitive than other azaleas, which, regardless of their order among the salt-sensitive cultivars, can be considered as support for plasmolysis as an acceptable method of measuring salt tolerance in azaleas.

Soluble salts are expected to plasmolyze cells as the first visible reaction. Because plasmolysis occurs within a few minutes, it precedes growth suppression and leafburn (secondary responses). Primary responses are generally more reliable than secondary responses in experimental evaluations and possibly the differences between the two ratings are due to the inaccuracy of measuring leafburn as a secondary response. Consequently, the plasmolysis technique, in addition to being faster than leafburn tests to perform, yielded similar ratings for the larger differences in salt tolerance and may yield more reliable data for comparing salt tolerance in azalea cultivars than was previously possible.

Table 2. Comparative ratings of salt tolerance of seven cultivars of azalea using leafburn and the plasmolysis technique.

Leafburn order*	Plasmolysis rating**	
Red Wing	Red Wing	7.5***
Damask Rose	Damask Rose	5.0
Purple Splendor	Purple Splendor	3.6
Hershey's Red	H. H. Hume	3.3
Delaware Valley White	Salmon Spray	2.6
H. H. Hume	Delaware Valley White	1.3
Salmon Spray	Hershey's Red	1.3

* Decending from least to the most leafburn in sandcultures.
** Mean of three samples. Average SE: +0.3.
*** Scale from 1 to 10 $dS\text{-}cm^{-1}$ (electrical conductivity) of NaCl. Each rating is the lowest concentration of salt producing plasmolysis in root cells.

Salt tolerance evaluation of azalea cultivars using plasmolysis. Existing reports (10, 11) show that the Southern Indica azaleas are more salt-tolerant than Kurumes, but the small number of azalea cultivars involved in these reports leaves the validity of such generalization in question. In addition, both types of azaleas are complex hybrids composed of several species, some of which are unknown. The species sources of tolerance or sensitivity to salt also are unknown. The plasmolysis technique was used in this report to separate species and cultivars with salt tolerance from those that are sensitive.

Azalea cultivars differed in salt tolerance over the entire range of salt concentrations with more cultivars plasmolyzing at the lowest concentration than at the highest. This greater number of cultivars responding to the lower salt concentration supports the concept that azaleas are salt-sensitive, especially since the popular Kurume azaleas provided most of the salt-sensitive cultivars. Cultivars were placed into three groups according to their plasmolysis response to the salt treatments (Tables 3-5).

Plasmolysis spanned a range of 10 to 100 mM. Previous reports that azaleas tolerate <3000 ppm, or up to 50 mM (8), were confirmed for many cultivars evaluated in this study. However, some previously untested cultivars plasmolyzed only at high concentrations (80–100 mM). This finding indicates a higher level of salt tolerance for these cultivars than has been previously reported, and opens the possibility for salt-tolerance selection and breeding.

The cells of salt-sensitive cultivars show plasmolysis at typical fertilization rates (1 to 3 dS-m^{-1}) from which they recover. Slightly water-deprived plants also were similarly plasmolyzed. On the other hand, severely water-to-salt-stressed plants exhibited root tip necrosis [death and decay, ed.] which stopped shoot growth or was followed by chlorotic [yellowish, ed.] new growth and symptoms of micronutrient deficiencies.

The cells of moderately sensitive cultivars were not plasmolyzed by typical fertilization rates but were plasmolyzed by excessive salt. This group included many sun-tolerant cultivars with good aesthetic characters. The salt-tolerant group contained those cultivars and species considered sun-tolerant and often characterized by rapid growth, large leaves, and coarse stems.

These ratings also divide azaleas according to their origin. The species considered to be parents of the Kurume azalea, are *Rhododendron kaempferi, R. obtusum*, and *R. kiusianum* (3), all of which are native to Japan's southern-most major island, Kyushu. The Kurume azaleas are salt-sensitive. The Indian hybrids are more salt-tolerant than Kurume azaleas and have their origin in species from other areas, particularly *R. macrosepalum, R. ripense, R. scabrum, R. mucronatum,* and *R. phoeniceum* from Ryukyu, Honshu, Shikoku, and Kyushu, Japan, and China (3). The popularity of the Kurume azalea as a pot plant and for landscaping has resulted in its acceptance even though it is salt-sensitive. The unfortunate development of the Kurume azalea from salt-sensitive species has resulted in cultural problems. The development of the Indian hybrids from other species apart from the Kurume parentage has resulted in an azalea with a distinctly greater salt tolerance.

Table 3. Salt-sensitive azalea cultivars (root cells plasmolyzed by <20 mM of sodium chloride).* **

Alaska*	Girard's Scarlet	President Claeys
Apple Blossom	Glory (Pericat)	Prosperity
Beni-kirishima	Hampton Beauty	Prudence
Ben Morrison No. 2	Heiwa	*R. Kaempferi*
Blaauw's Pink	Hershey's Red	Road Runner
Bridesmaid	Higasa	Rosebud
Camero	Hinodegiri	Sakuragata
Christmas Cheer	Indica Alba	Salmon Pink
Copperman	Kaempo	Sherwood Cerise
Coral Bells	Kurume Gloria	Silver Lace
Delaware Valley White	Laura	Snow Clad
Easter Parade	Lavender Queen	T17-6
Effie Bunce	Linwood K-Ten	Tradition
Eikan	Mary Ellen Hager	Vuyksiana Scarlet
Evening Glow	Mother's Day	Wakebisu
Everest	Nocturne	Ward's Ruby
Festive	Ora	White Gish
Firefly	Paradise	White Gumpo
Flamingo	Pink Pearl	Youth
Fukuju	Pirate	Yuca
Gardenia Supreme	Pleasant White	
Gigi	Poukhanense	

* Cultivars are identified according to the names provided by each contributor; may not be their original names.

** (100mM = 5850 mg per liter ed.)

Table 4. Semi-salt-tolerant azalea cultivars (root cells plasmolyzed by 30 to 60 mM of sodium chloride).

Amberglow*	Gee Whiz	Martha Hitchcock
Ben Morrison No. 1	George Lindley Tabor	Mighty White
Boldface	Gloria	Pride of Mobile
Brilliant	Grand Pink	Prince of Orange
Chimes	Hershey's Pink	Purple Splendor
Damask Rose	H. H. Hume	Salmon Spray
Dream	Iveryana	Trouper
Duc de Rohan	Margaret Douglas	White Water
Fawn	May Red	Vuyk's Rosyred
Flame Creeper	Marion Lee	

* Cultivars are identified according to the names provided by each contributor; may not be their original names.

Table 5. Salt-tolerant azalea cultivars (root cells plasmolyzed by 70 to 100 mM of sodium chloride).

Formosa*	Othello
Glacier	Pride of Dorking
Macrantha	Redwing
New White	Twenty Grand

* Cultivars are identified according to the names provided by each contributor; may not be their original names.

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LAVONIA, GEORGIA—A VISIT REMEMBERED

Ajit K. Thakur, Ph.D.
Springfield, Virginia

(Author's Note: In pursuit of rare, unusual, and newer varieties of azaleas and rhododendrons, we plant-lovers travel widely and meet exciting people. From these encounters, our knowledge of plants increases significantly. The following narrative is based on a visit with one of the nicest persons I have met in pursuit of my hobby.)

Lavonia, Georgia—off Interstate 85 about 100 miles north of Atlanta—is an unusual stop for a statistician unless he happens to be a collector of rare azaleas and rhododendrons. This is where George Beasley left a collection of rare native North American deciduous azaleas, species rhododendrons, and Dexter hybrids when he passed away.

The first week of March 1989 was cold, wet, and sometimes icy in Atlanta. I spent that week teaching statistical techniques at the annual meeting of the Society of Toxicology. But in the recesses of my mind, the association of Georgia and a rich array of plant material was ticking away.

During the past eight years, I had spoken with Mary Beasley many times and had received many treasures from Transplant Nursery. Over the telephone, she gives one a warm feeling of "do call again." I wanted to visit her, and I wanted to see George Beasley's plant collection.

My friend Dr. Richard Voelker, a recently converted azalea enthusiast, also attended the Atlanta meetings. Strolling in front of our hotel one morning, we decided suddenly to visit Mary Beasley and the Transplant Nursery.

After checking with Mrs. Beasley by telephone, we rented a car and headed north on I-85 for what turned out to be the best day of our stay in Georgia. Lavonia is located a few miles south of Hartwell Lake, a popular recreation area on the Georgia-South Carolina border. We left I-85 on Parkertown Road and were greeted by wild spiraea in full bloom and occasional dandelions raising their proud heads. Soon rows of greenhouses and shrubs signaled our arrival at the Beasley heaven.

We knocked on Mary Beasley's door, and that charming lady greeted us warmly. She led us through George's garden, where several magnificent *Camellia japonica* were in bloom. One was a frilled double that looked like strawberry ice cream. Scattered about the garden were several specimens of *Camellia sasanqua*. There were many Dexter rhododendrons and, of course, George's favorite native deciduous azaleas, fully budded. Here and there were evergreen azaleas, including a Spider Azalea ('Segai Tsutsuji' or 'Linearifolium'—a form of *R. macrosepalum*).

Competing in foliage size with the large-leaved camellias were two stately native azaleas, the Hammock Sweet (*R. serrulatum*) and Plum Leaf (*R. prunifolium*). It is surprising how Georgia's warmth causes all azaleas to grow larger than ours. Also in the garden were select forms of the Sweet (*R. arborescens*) and Flame (*R. calendulaceum*) Azaleas.

We entered a nearby greenhouse and saw rows of evergreen azaleas—some rather rare. There were vigorous selections of Pennington, Kehr, Harris, and Robin Hill azaleas ready to be planted outdoors. The group included several forms of the 'Miyama Kirishima' (*R. kiusianum*), some of them newly introduced Creech-March selections. The cultivar 'Album'—nearly deciduous—was covered with swollen buds. The Creech selection of 'Sata Tsutsuji' (*R. sataense*), a parent of the magnificent Kurume azaleas, was sprawling in another row. And then there was the tall, scarlet-topped, mono-

typic 'Sakura Tsutsuji' (*R. tashiroi*). In another row, the small-leaved, minuscule-flowered 'Unzen Tsutsuji' (*R. serpyllifolium*) was adding color.

The center rows of this greenhouse were full of nice-looking Satsuki azaleas, both species (*R. indicum* and several of its forms) and hybrids. Among these were some rare and unusual specimens, some from Dr. Creech and some from Nuccio's Nurseries. Mary picked two of them for me—'Kokan' and Nuccio's 'Mt. Baldy'—both with perfect 'Rinpu'-type (twisted) leaves. She then suggested that my friend should have 'Wakaebisu', one of the finest hose-in-hose Satsuki hybrids.

Mary asked me to identify two plants. One, called 'Red Spider', she had received years ago as a red form of 'Linearifolium'. This plant was, however, the Satsuki 'Polypetalum' or 'Kinsai'. The second plant had been supplied to her as *R. yakuinsulare*—again a misidentification. This extremely narrow-leaved, semi-dwarf, polypetalous azalea is really *R. otakumii*. Japanese specialists consider this plant to be a Satsuki (a form of *R. indicum*).

Over coffee in Mary's country-style living room, we talked about George and Mary Beasley. A Kansas State graduate, Mary met George when he was stationed at Fort Riley, Kansas. They married and later came to live in Georgia.

George was a farmer. His interest in ornamental plants was stimulated when he bought three camellias in bloom for three dollars. He then began to collect and study the various forms of native deciduous azaleas, including the Flame (*R. calendulaceum*), Piedmont (*R. canescens*), Pink Shell (*R. vaseyi*), Plum Leaf (*R. prunifolium*), Oconee (*R. flammeum*), and Cumberland (*R. bakeri*). George Beasley's transformation was complete: many trips to the mountains of Georgia, South Carolina, and other areas brought more varieties and color to his garden. The Beasley collection of native azaleas is one of the most extensive. It includes varieties, forms, and natural hybrids of these beautiful plants that cannot be found even in major collections such as Callaway Gardens. Although the Western Azalea (*R. occidentale*) does not do well in Georgia (or, indeed, elsewhere on the East Coast), we came across a patch of Occidentale hybrids on a slope near the garden.

George Beasley's quest for rare plants did not stop with the native azaleas. From his experiences with the natives, George became interested in developing deciduous azaleas summer-hardy in Georgia but with the flower quality of the Knap Hill and Mollis hybrids. Through many selections and crosses, several exciting summer-hardy deciduous hybrids were released. Some of the popular ones are: 'My Mary' ('Choptank C1' × *R. austrinum* 'Gold'), 'Peaches and Cream' (*R. viscosum* var. *montanum* × *R. bakeri*), 'Summer Lyric' (*R. prunifolium* × *R. arborescens* [originally called 'Jeff'], and 'Sweet Pink' (*R. atlanticum* × *R. calendulaceum*). Through his friendship with John Creech, Fred Galle, and others, he also obtained rare Japanese species azaleas. Many of these are currently being offered by Transplant Nursery.

Mary, her son Jeff, and Jeff's wife Lisa are taking care of George's garden and carrying out his wish that his rare plants be made available for azalea lovers. They have added rhododendron species such as *R. adenopodum, R. sanguineum* var. *haemaleum, R. hyperythrum,* and, of course, various forms of *R. yakushimanum.* That their search for fine plants continues was evident from the small rare plants tucked away in a protected corner.

Another greenhouse contained year-old deciduous azaleas. There were many forms of the Flame Azalea, such as 'Cherokee', 'Currahee', 'Frank Lunsford', 'Soquee River', and 'Wahsega'. I told Dr. Voelker about Lisa Beasley's find on the mountaintop—a blazing red *R. calendulaceum* now called 'Lisa's Red Flame'. Lisa told us that in the plains of Georgia the color of this plant is a lighter red. I did not find this surprising: many selections of *R. japonicum* behave in this manner, and possibly other species will.

The Beasleys have named many plants received from friends for the donors. Many of these selections are prettier than the typical forms of the species; for example, 'Rushin's Austrinum'. From the treasure trove of deciduous azaleas, I picked a nice-looking *R. viscosum* var. *montanum* and a large, ruffled, yellow-flowered 'Renge Tsutsuji' (*R. japonicum*). The Beasleys also propagate a pink-flowered form of *R. japonicum* grown from seed brought from Japan by Dr. Creech. Mary picked out two selections from open-pollinated hybrids of *R. calendulaceum* for my friend. Both plants have delightful flowers.

We started talking about 'My Mary'. Mary said, "George named it that because the plant is so sturdy, thick-textured, and wide." We disagreed. I told her that it was probably because the plant is so sweet, charming, and beautiful. It must have been George's way of telling the world how much he adored Mary. A little glow flushed on Mary's face—a glow that we will often recall as we enjoy plants from Lavonia in our own gardens.

Note for collectors: Transplant Nursery has an extensive collection of forms and varieties of species azaleas and rhododendrons, especially the native North American deciduous azaleas. The catalog does not list all of the plants available; you may have a pleasant surprise if you call or send a want list to the Beasleys.

WOOD'S ROOTING COMPOUND*

Wood's Rooting Compound is a new LIQUID rooting compound that looks very promising. It is labelled as a Soluble Concentrate to stimulate the rooting of herbaceous and woody cuttings.

The exciting prospect for Wood's Rooting Compound is that the active ingredients, both Indole3-butyric acid and 1-naphthalene acetic acid, stay in suspension without the usual problem of settling out as with many liquid rooting compounds. Also, the inert ingredients stimulate the absorption of the active ingredients into the cutting to help promote a higher success rate. In fact, we received a report from a grower who told us that he dipped approximately 1 inch of a poinsettia cutting in Wood's Rooting Compound, and had lush, strong roots OVER 3 INCHES UP THE STEM.

The secret inert ingredients, dimethyl formamide (DMF), is a powerful organic solvent that penetrates the tissue more easily than the conventionally used alcohol. This gets the active ingredients of IBA and NAA into the plant tissue which initiates and stimulates the roots. It is advised the Wood's Rooting Compound be used in a well ventilated area due to the inert ingredients of DMF.

There are several other advantages to using concentrated liquid dips such as Wood's Rooting Compound. One of the foremost is enabling the propagator to easily select the exact concentration for each of his crops. Also, if a cutting has hardened or is woody you can leave them in the concentrate longer in order for the active ingredient to better penetrate the plant tissue. Finally, Dr. Sidney Waxman of University of Connecticut has found that the success rate with a liquid concentrated dip is higher than the conventional dusting of a rooting compound mixed with talc, since the rooting compound is absorbed more readily into the plant tissue with DMF.

General dilution rates given on the Wood's Rooting compound label are:

Herbaceous or soft wood	1 part to 20 parts water
Medium hardwood	1 part to 10 parts water
Hardwood	1 part to 5 parts water

Experience, trial and error, and observation based on growing practices for your particular crops, as well as climate conditions, water purity and propagation medium will dictate the particular amount of water used in the solution. Record the different rates used and compare them to past solutions to determine your own best concentration rate.

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AZALEA CALENDAR

June 25	Northern Virginia Chapter Meeting at Pimmit Library, 1:30PM.
July 16	Louisiana Chapter meeting in Hammond, LA
July 20	Richmond Chapter Meeting at 7:00PM at the General Fidelity Bank in Bon Air. Topic: "Newer Propagation Techniques", Speaker: Don Hager (formerly of Hager Nurseries).
August 6	Northern Virginia Chapter Meeting at Pimmit Library, 1:30PM.
Sept. 16	Glenn Dale Preservation Project Workday. 9:00AM-1:00PM. For directions and more information contact: Roger Brown at (301) 577-7509.
Oct. 1	Northern Virginia Chapter Meeting at Pimmit Library, 1:30PM.
Oct. 14-15	The Delmarva-Ben Morrison Regional Meeting, 9:30AM-4:00PM 10/14 and 9:30AM-Noon 10/15.
Oct. 21	Glenn Dale Preservation Project Workday. 9:00AM-1:00PM. For directions and more information contact: Roger Brown at (301) 577-7509.
Oct. 22	Louisiana Chapter meeting in Franklinton, LA
November	Tri-State Dinner/Banquet Program
Nov. 5	Annual Meeting and Plant Auction of Richmond Chapter at the Garden Center of Richmond Council of Garden Clubs, 4015 Hermitage Road at 5:00PM.
Nov. 18	Glenn Dale Preservation Project Workday. 9:00AM-1:00PM. For directions and more information contact: Roger Brown at (301) 577-7509.
Dec. 3	Northern Virginia Chapter Meeting at Pimmit Library, 1:30PM.

1990

Jan. 14	Covington, Louisiana Chapter First Annual Banquet

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SOCIETY NEWS

EXECUTIVE COMMITTEE MEETINGS

The ASA Executive Committee continues to meet periodically to monitor operations of the Society, provide guidance to the President, and make recommendations to the Board of Governors. The latest meeting was April 16. The focus of the meeting was the agenda for the Annual Meeting and Board of Governors meeting on May 21. Society finances were also discussed. Publication costs for *THE AZALEAN* must be monitored closely because these costs consume over 80% of the Society's budget.

ARS AZALEA COMMITTEE CHAIRMAN

Malcolm Clark has been named Chairman of the ARS Azalea Committee. The purpose of this committee is to seek out and develop information on azaleas, to promote the development of articles on azaleas for the ARS Journal, and to encourage the registration of new varieties.

DELMARVA CHAPTER

Work has begun on the Chapter's Polly Hill garden at the Rehoboth Art League. It is anticipated that the garden will be complete in about two years. Plant material used in this garden will originate from cuttings directly out of Mrs. Hill's garden at Martha's Vineyard, Massacchusetts.

WELCOME TO THE DALLAS CHAPTER

The official ASA Charter for the new Dallas, Texas Chapter was approved at the May 21, 1989 Board of Governors Meeting. The chapter has over 30 members at the present time. Officers are:

President:	Naud Burnett
Vice President:	Steve Levine
Secretary:	Ronnie Brown
Treasurer:	Patsy Baumback

TRI-STATE CHAPTER NEWS

Tri-State Chapter President W. Robin Hahn reports several activities have taken place this year. Dinner banquets and meetings were held in January and March. Also in March, members worked a display booth at a yard and patio show in Evansville, Indiana. The booth featured the ASA Membership Brochures and materials on growing and maintaining azaleas were given out. The chapter expects to pick up several new members as a result of this event. In April, the chapter with a chapter of the Holly Society of America, co-sponsored a two-day event featuring in addition to garden tours, a plant auction, a banquet, and a speaker on plant hardiness from Purdue University.

LOUISIANA CHAPTER

The election of the new officers was held at the March meeting at the home of John and Evelyn Rochester. The officers are:

President:	John Rochester
Vice President:	Robert Lee
Secretary:	Jack Beith
Treasurer:	Rick Webb

A new office, "Historian" was established and Walley Warren was elected.

The chapter held their azalea show this year (for the first time) at the New Orleans Botanical Gardens. The annual Spring Garden Show which we participate in was moved to the Botanical Gardens and patterned after the famous Chelsa show in England. It was a big success and the weather cooperated beautifully. It was clear and cool and the turn out was beyond expectations. The Chapter's first plant sale was held in conjunction with this show. Azaleas of the later blooming varieties and those not usually available in the local garden centers were offered. It all went quite well and we were pleased with the results.

President John Rochester reports that the local weather has been most unusual this season with a mild winter and then two late freezes. The blooms weren't as pretty as normal. Azaleas started blooming about a month earlier than normal and then the late freeze ruined all the blooms plus any buds that were showing color. They

MARCH MAILING STATISTICS

There were 705 copies of the March issue of *THE AZALEAN* in the bulk mailing. Below is a state-by-state summary of the mailing.

Foreign = 24	Illinois = 2	North Carolina = 28
Rhode Island = 1	Kansas = 1	Georgia = 23
Vermont = 1	Arkansas = 2	Alabama = 24
New Jersey = 39	Texas = 22	Mississippi = 4
Pennsylvania = 17	Hawaii = 1	Ohio = 4
Maryland = 145	Washington = 14	Minnesota = 2
West Virginia = 2	Massachusetts = 9	Missouri = 4
South Carolina = 13	New Hampshire = 1	Louisiana = 21
Florida = 13	Connecticut = 7	Oklahoma = 2
Tennessee = 10	New York = 25	California = 22
Kentucky = 1	Delaware = 9	Oregon = 19
Indiana = 17	Virginia = 184	Washington, D.C. = 9

experienced a light frost April 11 which set records for this time of year. A low of 32 was recorded and some tender new growth was damaged slightly. The freezing temperature only lasted a couple of hours or the damage would have been much more severe.

AZALEA MAGIC AT THE TENTH ANNUAL BROOKSIDE GARDENS CHAPTER AZALEA SHOW

Chris Stelloh-Garner

Just as Mona Lisa's smile beckons art lovers, so did the recent 36th Annual Landon Azalea Garden Festival and Antiques Show in Bethesda, Maryland, lure thousands of Washingtonians, weary of wintry days and eager to rejoice in the greening of their gardens. And what an oasis the festival was! Entire families strolled across the verdant commons, stopping to admire a special blossom or to bask in the warming rays of the sun. Children scampered about as if in imitation of the bees busily flitting from one plant to the next. Ice cream cones abounded. Complete with antiques, plants to be given a new habitat, a bear boutique, wonderful lunches to be shared with friends and loved ones, the rolling hills of the Landon School offered a joyous and festive atmosphere, despite the menacing skies throughout the weekend.

None of this could compare, however, with the breathtaking beauty and splendor of the two-and-one-half acre Perkins Garden, ablaze with the glory of thousands of azaleas and rhododendrons, and the serenity of the Tenth Annual Azalea Show, which was hosted in the school's library. With nearly 300 entries, this show proved the most successful yet in the history of the Brookside Gardens Chapter of the Azalea Society of America. Stepping through the portal of the library immediately reminded one of entering a gothic cathedral, with the room's soaring ceiling and dark wooden balcony. Multi-colored sprays of azaleas, silhouetted against the windows with sunbeams streaming through them, served as stained glass masterpieces—vivid reds, light orchids, ivory whites, rich orange reds, lavenders, pure whites, bright yellows and tangerines. . . . Green-draped tables ringed three sides of the room and carried the eye in a sweeping circle, while additional displays beckoned from their island of tables in the library's midst.

Magical, mysterious, names wafted throughout the air! Escatawpa . . Narcissiflora . . Balzac . Hiawatha . . Lavender Queen . . Purple King . . . Merlin . . . Strains of music were heard! Beethoven . . . Joseph Haydn . . . Palestrina . . . Visions of exotic places appeared! Kintatyo . . Koromo Shikibu . . Rivermist . . Snow . And who could not feel the innocence of Madame Butterfly . . .

The long, arduous hours spent by exhibitors in grooming their specimens were clearly evident in each spray, and the judges faced what seemed an insurmountable task. Slowly and deliberately, though, they examined each specimen, scrutinizing its presentation, its foliage, its flower, and its representation. First one, and then another, and another still, until each spray within each class and each section had been carefully evaluated through experienced eyes. So it was that the color of the blossom, the location of blotch, and leaf so lovingly cleaned, the artful gesture of the spray in its vase were those elements which ultimately swayed the judges to present white ribbons for honorable mention, yellow for third place, red for second, and blue for first place within a class. And it was only through further deliberations that the coveted green ribbons were awarded for best azalea in each section. What a task! What glorious beauty!

Our heartiest congratulations to Brian Barr for his *R. periclymenoides*, which received Best Azalea Award! And kudos to Denise and Bob Stelloh, who won the Sweepstakes for most points for ribbons received! Finally, warmest wishes and heartfelt thanks to all who joined in making this year's show the best ever!

Best in Show: Brian Barr's *R. periclymenoides*

Sweepstakes: Denise and Bob Stelloh

Section A: Indian, Indica, and Asian Varieties
Gil Bowne's 'Pink Ruffles'

Section B: Kaempferi and Pericat
Louis Bowker's 'Palestrina'

Section C: Kurume
Nancy Batson's 'Bridesmaid'

Section D: Beltsville
Denise & Bob Stelloh's 'PingPong'

Section E: Glenn Dale
Mary Ann Thanes' 'Trouper'

Section F: Gable, Girard, Pride, Shammarello & Stanton
Mary Ann Thanes' 'Rose Greeley'

Section G: Harris
Robert K. Barry's 'Margaret Rowell'

Section I: Other Named Evergreen Varieties
Rusty LaGuardia's 'White Rosebud'

Section J: Unnamed Evergreen Singles
Anita Ley's '47 Purple Lavender'

Section K: Unnamed Evergreen Doubles & Semidoubles
Bill Miller's 'Harris 170-A'

Section L: Named Deciduous Varieties
Robert K. Barry's 'Queen Emma'

Section M: Unnamed Deciduous

Section N: Exibitor Grown Propagations from Seed
Bill Miller's 'Parfait' O.P.

Section O: Container Grown Azaleas