

Volume 26 · Number 1 · Spring 2004

The *Azalean*

Journal of the Azalea Society of America



1000 Moody Bridge Road
Cleveland, SC 29635

Propagation of Florida and Piedmont Azalea
from Stem Cuttings
Growing Rhododendrons and Azaleas in the
Midwestern Garden

Soil Notes—And That's the Truth! Part II
Evergreen Azalea Propagation from Cuttings

President's Letter

Robert (Buddy) Lee — Independence, Louisiana

Springtime has finally arrived, and it is the "perfect storm" of gardening activities. There is so much to see, and so much to do. How can anyone get around to all of it? The temperature is getting pleasant and the daylight hours are getting longer. From the first hint of color from the Kurumes to the final Satsuki flower, the spring azalea blooming period is a wonderful time of the year.

There are numerous azalea festivals in different parts of the country that a person can attend. Joe Schild, immediate past president, is spearheading a

program that will recognize municipalities for their promotion and/or celebration of azaleas in public or private gardens. The Azalea City Project is well on its way, and it is a great opportunity for both the municipality involved and the ASA. I'm sure you will be hearing more about this exciting program in the future. If you know of any azalea festivals, please invite the organizers to contact the ASA for more information.

Have a fantastic azalea-blooming spring. Remember that this is your Society and the board of directors and I want to hear from you.

WANTED: Deciduous Azalea Info

I wish to do a future article for *The Azalean* on the performance of various hybrid deciduous azaleas in USDA Zones 7 and 8. If you have experience growing or attempting to grow named hybrids in these two relatively hot and humid zones, please contact me:

Will Ferrell
221 Bear Run Lane
Kernersville, NC 27284
336-769-7103
bearrun3@triad.rr.com



On the Cover

Spring comes early to East Texas, as this photo of 'Nuccio's Break O'Day' taken April 2, 2004 attests. This is one of the azalea cultivars in the cultivar evaluation section of the Ruby M. Mize Azalea Garden in Nacogdoches, Texas. The flowers are large, up to 3' across, which makes this cultivar another choice for gardeners who may be looking for large flowers to team with Southern Indicas 'Mrs. G. G. Gerbing' or 'George Lindley Taber'. This lovely warm salmon-pink variety was first seen during a visit to the Plant Development Services, Inc., nursery yard during the 1999 ASA convention in Mobile, Alabama. It is a sport of 'Nuccio's California Dawn', which is a moderate yellowish 3' pink. (Photo by Barbara Stump)

Azalea Society of America

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 Subgenera *Tsutsusi* and *Pentanthera* of the genus *Rhododendron* in the Heath family (*Ericaceae*).

Officers for 2003-2004

President — Robert Lee
Vice-President — William McDavit
Secretary — John Brown
Treasurer — Robert Stelloh
Immediate Past President —
Joseph E. Schild, Jr.

Directors

Terms Expire in 2004

Margie Jenkins
Robert Hobbs
Donald H. Voss

Terms Expire in 2005

Leslie Ann Nanney
Joe Coleman
John Migas

Chapter presidents serve as
ex-officio directors

Chapters

Brookside Gardens (chartered Aug. 1979) Dr. Charles Evans, <i>Pres.</i>	Ben Morrison (chartered May 1980) Bob McWhorter, <i>Pres.</i>
Northern Virginia (chartered May 1980) Barry Sperling, <i>Pres.</i>	Louisiana (chartered June 1981) James Campbell, <i>Pres.</i>
Tri-State (chartered Oct. 1981) Robin Hahn, <i>Pres.</i>	Dallas Chapter (chartered May 1989) Eugene Westlake, <i>Vice-Pres.</i>
Oconee Chapter (chartered Nov. 1991) Allison Fuqua, <i>Pres.</i>	Vaseyi Chapter (chartered June 2001) Ed Collins, <i>Pres.</i>
Lake Michigan Chapter (chartered May 2003) John Migas, <i>Pres.</i>	

Regular membership is open to all interested parties for an annual amount of \$25.00; life-membership for an individual is \$500.00. Members receive *The Azalean* and are eligible for participation in all activities of the Society including those of the chapter with which the member affiliates. For information and a membership application, write to the Membership Committee, Azalea Society of America, 1000 Moody Bridge Road, Cleveland, SC 29635.

Editor

Barbara Stump

Editorial Advisory Board

Donald H. Voss

Jane Newman

Robert W. Hobbs, Ph.D

Advertising

Joseph E. Schild, Jr.

The Azalean (ISSN-1085-5343) is published quarterly (spring, summer, fall and winter) by the Azalea Society of America, Inc., 1000 Moody Bridge Road, Cleveland, SC 29635.

Additional copies of the current and back issues can be obtained from Azalean Back Issues, 1000 Moody Bridge Road, Cleveland, SC 29635; jbrown51@bellsouth.net. Please include \$1 per copy ordered, plus \$1 per order. Orders from outside the U.S., Canada, and Mexico, add \$1 per issue for postage.

Opinions and views expressed in *The Azalean* are those of the contributors or the Editor, not necessarily those of the Society, and are presented to foster a wider appreciation and knowledge of azaleas. Advertisements are presented as a service to our readers and do not imply endorsement by the Azalea Society of America. Advertising and other contributions to *The Azalean* are used exclusively to help defray the costs of publishing *The Azalean*.

Address all editorial and business correspondence to:

The Editor, *The Azalean*

101 S. Sanders

Nacogdoches, TX 75964

PH: 936-462-7195

FAX: 936-462-1842

bsstump@sbcglobal.net

Society Web site: www.azaleas.org

Mail list: azaleas@azaleas.org

Printed by:

Complete Printing

Carthage, Texas

- 2 **President's Letter**
Robert Lee
- 4 **Propagation of Florida and Piedmont Azalea from Stem Cuttings**
Patricia Knight
- 7 **F. P. Lee Commendation for 2003**
- 7 **My First Encounters with Azaleas and Rhododendrons**
John Migas
- 9 **Growing Rhododendrons and Azaleas in the Midwestern Garden**
Charles W. Mann
- 11 **Soil Notes—And That's the Truth! Part II**
Barry Sperling
- Mastering Azaleas Series**
- 14 **Part 3. Evergreen Azalea Propagation from Cuttings**
Joseph E. Schild, Jr.
- Society News**
- 16 **Chapter News**
- 17 **In Memory—Ted Van Veen, Jr.**
- 17 **The Azalea Research Foundation**
Bob Stelloh
- 18 **Azalea Identification Please**
Bill McDavit
- 18 **New Members**
- 19 **Azalea Survey**
William C. Miller III
- 21 **Azalea Mart**

Editor's Note—Don't Throw Away the Wrapper

Barbara Stump — Nacogdoches, Texas

Please look carefully at the wrapper in which *The Azalean* is mailed. There is often important information on it, as in the annual ballots for board membership and officer elections. With this issue, there is a full copy of the Azalea Survey on the wrapper (also shown on pages 19 to 20), to which William C. Miller III would appreciate your response.

Propagation of Florida and Piedmont Azalea from Stem Cuttings

Patricia R. Knight — Poplarville, Mississippi

Objective

The objective of this experiment was to determine the optimum hormone concentration and mist interval for propagation of *Rhododendron austrinum* and *R. canescens*.

Introduction

Native azaleas are undoubtedly some of the most spectacular flowering deciduous shrubs. They add much needed color to the landscape in the early spring when few other plants are blooming. Two of the earliest flowering native azaleas are *Rhododendron austrinum* (Small) Rehder and *R. canescens* (Michaux) Sweet (Galle, 1987).

Rhododendron austrinum (Small) Rehder, Florida Azalea, is a medium to tall branched shrub to 15' tall (Galle, 1987). Flower color ranges from pure yellow to yellowish-orange. Flowers 1" to 1-1/2" long appear prior to the leaves in clusters of eight to 15 blossoms. The native range of Florida Azalea is northern Florida, coastal Alabama and Georgia, and southeastern Mississippi. Florida Azalea is hardy in USDA hardiness zones 6b-10a.

Rhododendron canescens (Michaux) Sweet, Piedmont Azalea, is a medium to tall shrub that may exceed 15' tall and may sometimes be stoloniferous (Galle, 1987). Flower color ranges from white to medium or dark pink with white to dark pink corolla tubes. Piedmont Azalea seldom has a blotch. One to 1-1/2" flowers appear prior to or with the leaves. The native range of Piedmont Azalea is the coastal plains of North Carolina to Florida and west to Oklahoma and southeastern Texas. Piedmont Azalea can also be found in the Piedmont areas of North

Carolina, Georgia, Alabama, Mississippi, Tennessee, and Arkansas. Piedmont Azalea is hardy in USDA hardiness zones 6a-10a.

Reports vary concerning the ease of propagation for native azaleas. Bir (1992) reported that native azaleas root best when terminal softwood cuttings are taken when new growth has ceased. Use a 0.5 to 0.8% IBA powder or 1,000-2,500 ppm (parts per million) IBA solution. New growth should be forced under lights, or rooted cuttings should be left undisturbed through normal winter chilling until new growth starts in the spring. Galle (1987) reported that Florida Azalea is easy to propagate from softwood cuttings while Piedmont Azalea is moderate to easy to propagate from softwood cuttings. Berry (1998) reported that Florida and Piedmont Azalea can be propagated from soft new growth using 5,000 ppm K-IBA. Optimum months are mid-May through mid-June. Knight *et al.* (2001) reported the best rooting response for Piedmont Azalea occurred between 8,000 and 10,000 ppm K-IBA. Utilization of a 10,000 ppm K-IBA quick dip resulted in 100% rooting.

Dirr and Heuser (1987) reported that stoloniferous native azaleas often root easier than non-stoloniferous species. Major problems associated with native azalea propagation are rooting the cuttings and inducing new growth in the spring. Six-inch cuttings should be taken when they are slightly firm. Cuttings should have all but four leaves stripped and be wounded. Use 4,000 ppm IBA with a fungicide and stick cuttings in a 100% peat moss medium.

Materials and Methods

Six-inch (15 cm) terminal softwood cuttings of *R. austrinum* and *R. canescens* were taken on April 11, 2003, from established plantings at Crosby Arboretum, Picayune, Mississippi (USDA zone 8b). Cuttings were stored at 100% relative humidity during transport to Poplarville, Mississippi, and were stuck the same day. Two to four terminal leaves were left on each cutting, and the basal end was wounded to a length of 1" (2.5 cm). Cuttings were quick-dipped for 5 sec in the respective hormone solutions and immediately stuck in 3" (7 cm) pots to a depth of 1". Propagation medium was 100% pine bark amended with 5 lbs (2.9 kg) dolomitic limestone and 1-1/2 lbs (0.9 kg) Micromax per cubic yard (cubic meter). Cuttings received mist from 7:00 a.m. until 17:30 p.m. Average light levels ranged from 800-1,000 $\mu\text{mol}\cdot\text{m}^{-2}\cdot\text{sec}^{-1}$. Neither fertilizer nor bottom heat was utilized. Cuttings were harvested July 2, 2003.

Hormone concentrations utilized in this experiment included 0; 2,500; 5,000; 7,500; or 10,000 ppm K-IBA, with water as the solvent. Misting intervals were 4 sec/6 min or 4 sec/12 minutes. Data collected for this experiment included percent rooting, cutting growth, cutting quality (0-5, with 0 being dead and 5 being a healthy, well-rooted cutting), root number, length of three longest roots, and root quality (0-4, with 0 being dead and 4 being excellent).

Cuttings were arranged in a 5 (hormone concentration) x 2 (mist interval) factorial arranged in a randomized complete block design with 6 replications consisting of 2 plants per treatment. All data were subjected to ANOVA statistical analysis, and

means were separated using Fisher's Protected Least Significant Difference (LSD, $p < 0.05$). Each species was analyzed as a separate experiment.

Results

Florida Azalea. Hormone level. Percent rooting ranged from 62.5% for cuttings dipped in 0 or 2,500 ppm K-IBA to 100% for cuttings dipped in 10,000 ppm K-IBA. Cuttings treated with 5,000 or 7,500 ppm K-IBA had 50.0% or 37.5% rooting, respectively (Table 1). Hormone concentration had no influence on cutting growth. Cuttings treated with 7,500 ppm K-IBA had 2 to 5 times more roots compared to cuttings treated with 2,500 or 0 ppm K-IBA. There were no differences in root numbers between cuttings treated with 0 or 2,500 ppm K-IBA or 2,500, 10,000 or 5,000 ppm K-IBA. Average root length was greatest for cuttings treated with 7,500 or 10,000 ppm K-IBA compared to 0 or 2,500 ppm K-IBA. Cuttings treated with 5,000 ppm K-IBA were similar to all other treatments. Root quality was greatest for cuttings treated with 10,000 ppm K-IBA and poorest for cuttings treated with 0 ppm K-IBA. All other treatments were similar.

Mist Interval. Percent rooting ranged from 75% for cuttings placed in mist for 4 sec/6 min to 60% for cuttings placed in mist for 4 sec/12 min (Table 1). Mist interval had no influence on cutting growth, average root length, or root quality. Root numbers were 58% less for cuttings placed in mist beds for 4 sec/12 min compared to cuttings placed in mist beds for 4 sec/6 min.

Piedmont Azalea. Hormone level. Percent rooting ranged from 75.0% for cuttings treated with 0, 2,500, or 5,000 ppm K-IBA, 87.5% for cuttings treated with 10,000 ppm K-IBA, and 100% for cuttings treated with 7,500 ppm K-IBA (Table 2). Hormone level had no influence on cutting growth. Root number, average root length and root quality were greatest for cuttings dipped in 10,000 ppm K-IBA compared to all other treatments.

Mist interval. Percent rooting ranged from 95% for cuttings placed in mist for 4 sec/6 min compared to 70.0% for cuttings placed in mist for 4 sec/12 min (Table 2). Mist interval had no influence on root number, average root length, or root quality ratings. Growth was best for cuttings placed under mist for 4 sec/6 min.

Discussion

Florida Azalea. Hormone concentration had no influence on cutting growth. Root number, average root length, and root quality were generally the same regardless of whether cuttings were treated with 5,000, 7,500 or 10,000 ppm K-IBA. However, percent rooting was improved to 100% when cuttings were dipped in 10,000 ppm K-IBA compared to cuttings dipped in 5,000 or 7,500 ppm K-IBA. These results suggest that higher hormone levels may be most beneficial for propagation of Florida Azalea. Mist interval only impacted root number. It appears that 4 sec/6 min is the preferred mist interval for propagation of Florida Azalea.

Piedmont Azalea. Hormone concentration did not influence cutting growth. Cuttings treated with 10,000 ppm K-IBA consistently had higher root numbers, average root lengths, and root quality ratings compared to cuttings treated with other levels of K-IBA. Knight *et al.* (2001) reported similar results in a previous Piedmont Azalea experiment. Mist interval only impacted growth increase, and 4 sec/6 min appears to be the preferred mist interval for propagation of Piedmont Azalea.

While cuttings of both species treated with low levels of hormone rooted, the use of higher levels of K-IBA appears to increase root numbers, lengths, and quality. While the cuttings did root fairly easily as reported by Galle (1987), poor overall cutting quality suggests that initiating new growth is as difficult as reported by Dirr and Heuser (1987).

Literature Cited

1. Berry, J. 1998. "Commercial Propagation of Southern Native Woody Ornamentals." *Comb. Proceedings. International Plant Propagators Society*. 48:643-650.
2. Bir, R.E. 1992. *Growing and Propagating Showy Native Woody Plants*. Chapel Hill, North Carolina, and London: The University of North Carolina Press. Pp. 132-138.
3. Dirr, M.A. and C.W. Heuser, Jr. 1987. *The Reference Manual of Woody Plant Propagation: From Seed to Tissue Culture*. Athens, Georgia: Varsity Press. Pp. 188-189.
4. Galle, F.C. 1987. *Azaleas*. Portland, Oregon: Timber Press, Inc. Pp. 67-73.
5. Knight, P.R., S.L. File, and R.F. Brzuszek. 2001. "Impact of Hormone Concentration for Propagation of Native Azaleas." *Proceedings. Southern Nurserymen's Association Research Conference*. 46: 365-367.

Dr. Patricia K. Knight is Associate Research Professor of Horticulture at Mississippi State University's South Mississippi State Branch Experiment Station, Coastal Research and Extension Center. She has a BS in horticulture with an emphasis on landscape design from Auburn University, an MS in horticulture from Auburn, and a Ph.D. from Virginia Tech. Her 1997 doctoral dissertation was entitled, "Influence of Storage and Transplanting Practices on Recovery from Dormant Xylary Embolism for Selected Urban Tree Species." She may be contacted at:

*Mississippi State University-
Coastal Research and
Extension Center
PO Box 193
Poplarville, MS 39470
Phone: 601-795-4525
Fax: 601-795-0653*

Table 1. Influence of hormone concentration and mist interval on rooting for *Rhododendron austrinum*.

Treatment	% Rooting	Cutting Growth	Root Number	Average Root Length ^z (cm)	Root Quality ^y
Hormone					
0 ppm K-IBA	62.5	3.0a ^x	6.6c	2.1b	0.2b
2,500 ppm K-IBA	62.5	4.4a	17.1bc	3.4b	0.7ab
5,000 ppm K-IBA	50.0	3.6a	21.9ab	4.2ab	0.7ab
7,500 ppm K-IBA	37.5	4.7a	33.9a	5.9a	1.2ab
10,000 ppm K-IBA	100.0	4.4a	21.8ab	6.0a	3.7a
Mist Interval					
4 sec/6 min	75.0	4.6a	25.6a	4.9a	0.9a
4 sec/12 min	60.0	3.5a	14.9b	3.8a	1.7a
Significance ^w					
Hormone		NS	*	**	**
Time		NS	*	NS	NS
Hormone* Time		NS	NS	NS	NS
Rep		NS	NS	NS	NS

^z Average root length = length of three longest roots/3.

^y Root quality rating = 0-4 with 0 being dead and 4 being a well-rooted cutting.

^x Means followed by the same letter are not significantly different.

^w NS, *, or ** means nonsignificant or significant at the 5% and 1% levels, respectively, according to LSD, p<0.05.

Table 2. Influence of hormone concentration and mist interval on rooting for *Rhododendron canescens*.

Treatment	% Rooting	Cutting Growth	Root Number	Average Root Length ^z (cm)	Root Quality ^y
Hormone					
0 ppm K-IBA	75.0	3.9a ^x	6.3b	2.5b	0.6b
2,500 ppm K-IBA	75.0	2.2a	8.5b	2.8b	1.0b
5,000 ppm K-IBA	75.0	2.3a	8.0b	2.9b	0.9b
7,500 ppm K-IBA	100.0	2.5a	5.3b	2.8b	0.8b
10,000 ppm K-IBA	87.5	5.6a	41.3a	7.0a	3.0a
Mist Interval					
4 sec/6 min	95.0	4.8a	14.3a	4.2a	1.4a
4 sec/12 min	70.0	1.8a	13.5a	3.0a	1.1a
Significance ^w					
Hormone		NS	**	**	**
Time		**	NS	NS	NS
Hormone* Time		NS	NS	NS	NS
Rep		NS	NS	*	*

^z Average root length = length of three longest roots/3.

^y Root quality rating = 0-4 with 0 being dead and 4 being a well-rooted cutting.

^x Means followed by the same letter are not significantly different.

^w NS, *, or ** means nonsignificant or significant at the 5% and 1% levels, respectively, according to LSD, p<0.05.

F. P. Lee Commendation 2003

Mary Rutley, Brookside Gardens Chapter vice-president, presented the chapter's 2003 F.P. Lee Commendation to Don Voss of Vienna, Virginia, at their annual meeting on December 7, 2003, at the Brookside Gardens Educational Center in Wheaton, Maryland. The commendation in part reads:

The Frederic P. Lee Commendation for distinguished contributions to furthering the knowledge of and appreciation of Azaleas is awarded by the Brookside Gardens Chapter of the Azalea Society of America to Donald H. Voss.

In recognition of your outstanding participation in the activities of the Brookside Gardens Chapter in advancing the propagation, care, and general appreciation of Azaleas. Presented with deep gratitude during the 24th annual meeting of the

Brookside Gardens Chapter on the first day of December in the year 2003.

Donald H. Voss is an economist by training, and an active gardener with a scholarly interest in azaleas and rhododendrons. He is an expert on the azaleas of Robert Gartrell (Robin Hill hybrids). Don says he has been interested in ornamentals since the 1930s, but that he must attribute a preoccupation with azaleas to meeting the Gartrells in late 1946, after which he became a frequent visitor. He is also a former chairman of the Society's board of directors and a former keeper of the Society's database. Don currently volunteers at the Herbarium of the U.S. National Arboretum. He has been a member of the Society since 1980 and is a regular contributor to *The Azalean*. In fact, since 1984 he has contributed 25



articles to the journal, covering such wide-ranging topics as the definition of what an azalea is, Robin Hill hybrid names and origins, horticultural nomenclature, the life cycle of the evergreen azalea, color perception, and horticultural information on the Web (with Bob Stelloh) and azalea-sporting research (with Richard West).

My First Encounters with Azaleas and Rhododendrons

John Migas — Saugatuck, Michigan

[With this article and the following one by the late Charles Mann, John Migas begins the story of how well azaleas do in Michigan, to prepare the Society for the ASA convention to be held in Holland, Michigan, in 2005, Ed.]

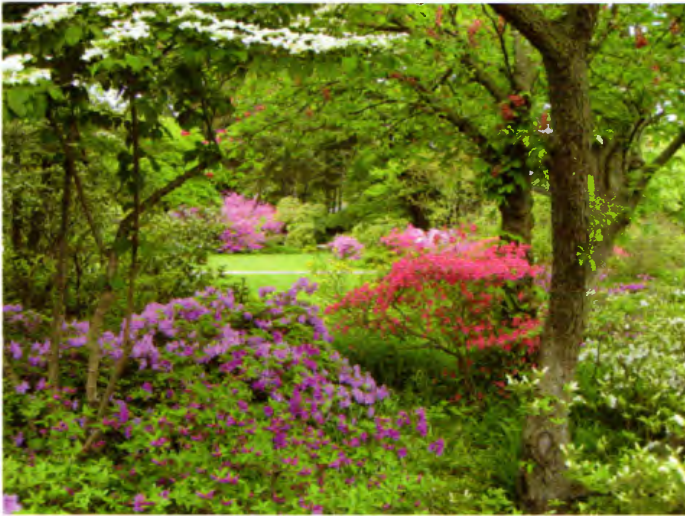
It was the first weekend in May 1985. I had just closed on my home here in Saugatuck, Michigan. Being my first home, I was really excited. I had discovered this house in February when the weather was very cold, with a lot of snow cover. It wasn't until that warm spring day in May that I really could get a good look around the house. After moving in some furniture and having a late breakfast, Dad and I decided to take a walk around.

"Wow," I thought. "I just bought a house in the country, with a wood-burning stove, almost two acres, and only one neighbor, who lived across the road." Having grown up in the city, I was on Cloud Nine.

As we walked around, we noticed the grass—what little there was—needed cutting. We also noticed that there were a lot of weeds, brush, wild sumac, wild blackberry

bushes, and sassafras. At the time I don't think I knew what I was getting myself into. As for my Dad, bless his heart, he started yanking some sassafras, sumac, and honeysuckle out and within a few hours we had the yard looking better already.

I started to cut grass and Dad started the grill. After lunch it was back to clearing. We decided to clear out an area not too far from behind the house that had two bushes with big weird looking green leaves on them. We yanked and yanked and yanked and just couldn't budge this weird looking bush. As we attempted again and again, our first visitors arrived, my cousin Betty and her husband Joe. As they approached, she asked what we were doing. We told them we were clearing some of the brush away from the house and that this big green bush



Landscape view of Charles Mann's garden—The viburnum in the upper left is probably a *V. plicatum*, the doublefile viburnum. The lavender azaleas lower left are Gable hybrid 'Mildred Mae' and 'Sherwoodi' (syn. 'Sherwood Orchid'); the bright pink in the middle ground is Kaempferi hybrid 'Fedora', which Mann used frequently in his gardens. In the background are 'Purple Splendor' and 'Amoenum'. (Photo by Tony Greco)

was giving us a hard time. Much to our surprise, Betty blurted out, "You idiots, that's a rhododendron. Don't tear it out! Wait till you see it in a few weeks. You'll be glad you didn't." Until that point I had never even heard of the word rhododendron. This was my first encounter with the rhododendron world.

A few weeks later the bush bloomed, and it was awesome. It was pink and another was red. Once again Dad and I decided to take a walk around the countryside. The area is mostly wooded, with large oaks, maples, white pine, hickories, and a lot of apple and pear trees, which were also blooming at that moment. All this adds up to privacy that is priceless. While cutting through these woods, we headed toward the Kalamazoo River. Unexpectedly, we walked up on another neighbor's home, which caught us by surprise. The sight was breath-taking. Crabapples, dogwoods, redbuds, rhododendrons, and, of course, azaleas were all in peak bloom. This was my second encounter with the world of azaleas and rhododendrons. I was totally floored.

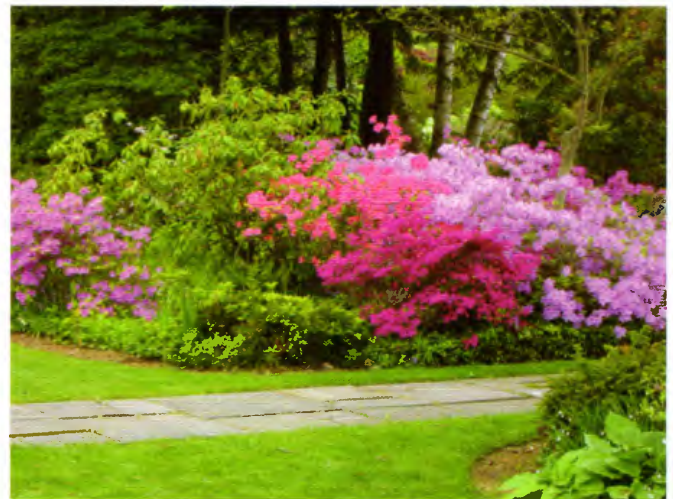
the blooms of azaleas and rhodos. My view of life was changing, instantly, without my ever realizing it.

That was May of 1985, and since then my interest in cars, motorcycles, and sports have all been put on the back burner. Sad to say, my dad and Mr. Mann are no longer with us, but these two encounters with azaleas and rhododendrons will always be with me. Since Mr. Mann passed away, I've been very fortunate to continue to maintain his six-acre garden. Every time I walk through the garden, I think of our many conversations. I drift off to the spots where he or my mom would pose for a picture. I often reflect on the azaleas he would point out and say, "Cross this one when you get a chance." So, I'll take pollen from his garden and cross it with a flower from my garden, usually one my dad helped plant, and just hope for the best.

As we walked up the drive, a man approached from the house, and I quickly introduced myself as his new neighbor. He introduced himself as Charles Mann and kindly took Dad and me for a tour of his garden. As we went around each corner the views kept getting better and better. Pathways of azaleas in peak bloom continued to go on and on. It was impossible to keep count of all the butterflies, birds, bees, besides all of

John Migas, from Saugatuck, Michigan, is working hard on the ASA convention for 2005, which will be held there in southwest Michigan. We hear he is also gathering prospective members to help the ASA grow in the upper Midwest. John has a harsh climate and short growing season to contend with when growing his 250 varieties of azaleas and 150 varieties of rhododendrons. He has been a member of the Society since 1996, but has been growing azaleas for 10 years and hybridizing them for three. He runs both a general contracting firm and a primarily wholesale nursery. Most of his sales have been to landscapers and retail nurserymen in the area, who are very surprised to find the broad range of azalea cultivars he has successfully grown in his five-acre display gardens. He has found membership in the Society to be very rewarding and he has begun to increase interest in the ASA in his area by helping found the Lake Michigan Chapter, which was chartered in 2003.

John Migas, along with Lake Michigan Chapter members Charles Holly and Thomas Ksiezak, has just completed purchase of the Charles Mann property so that it can continue to be a beautiful azalea and rhododendron garden.



Mann used native Michigan blue slate for some pathways and steps in his garden. Shown here are, left to right: 'Sherwoodi', 'Amoenum', 'Fedora', and 'Sherwoodi'.

(Photo by Tony Greco)

Growing Rhododendrons and Azaleas in the Midwestern Garden

Charles W. Mann — Saugatuck, Michigan

Rhododendrons and azaleas have fascinated me since my boyhood days in the foothills of the Blue Ridge Mountains of Nelson County, Virginia. There it was ever a delight to visit my great grandmother in the spring to pick the “wild honeysuckle,” as *Azalea nudiflorum* [actually *Rhododendron periclymenoides*, Ed.] was commonly called there, and on the day of the school play, at the close of the school year, we would pick great bouquets of *R. maximum* to decorate the stage of the country school. And so, some years later, when I began designing and constructing gardens in southwestern Michigan, I decided to grow rhododendrons as a source of plant materials.

There are four important factors to consider in growing and using rhododendrons; namely, climate, soil, varieties, and use in the landscape.

Climate

Climate involves temperature, with its extremes of 97° F in the shade in summer to -40° F (wind-chill index), with strong northwest winds in winter. The hot sun may fade or even burn the leaves on a sultry day in August. It may prove to be devastating in early July when the growth is young and tender and the humidity is high.

Where there is little snowfall to prevent freezing of the soil, mulching heavily is essential in winter. Frozen soil, low humidity, and a strong wind may mean complete desiccation, causing death to the plant. One must be cautious using mulch, however, as the trunk just under heavy mulch may not harden off before the first big freeze, and winter damage leading to death will occur. Insects that

eat the roots and girdle the main stem at the soil level may be prevalent under heavy mulch. White grubs are particularly fond of this sort of habitat.

Rainfall is usually plentiful enough for rhododendrons, as they are able to survive a considerable drought. Azaleas are much more exacting in their requirements, and may suffer in prolonged droughts to a degree that death may result. Ample mulch again may prove invaluable in months of low rainfall. Most home gardeners know the importance of irrigation in dry periods, and drought is usually no great problem unless watering restrictions are enforced because of heavy demands on the city water supply.

While snow is normally more beneficial than harmful, in some winters the snowfall may be so heavy that breakage may occur in rhododendron plantings. The greatest damage may be experienced when the temperature rises and then there is rainfall followed by falling temperatures and freezing. The increased weight may cause damage. Rhododendrons, however, have an amazing recovery ability, and by the end of the growing season any previous damage may no longer be noticeable.

Soil

Soil and soil management are most important in growing rhododendrons and azaleas successfully. Good drainage is essential, be it sand, loam, or clay soil, because roots suffocate from lack of oxygen if air cannot circulate freely in the soil. An excess of water prevents circulation of air, and the roots gradually die from oxygen starvation. The leaves

turn yellow from lack of nutrition, resulting in death to the entire plant.

Acidity (pH) is of next importance. Usually the use of 50% acid peat (pH 3.5-5.0) and 50% soil will adequately solve the acidity problem should there be one. Organic matter is essential and rhododendrons and azaleas should be mulched annually if possible. Peat mulch above all is especially beneficial to rhododendrons and azaleas because they will develop a thick root system stimulated by the mulch.

The culture of rhododendrons and azaleas is rather specific because the shallow feeder roots should not be disturbed with cultivation that would damage the root system. Ground cover such as creeping myrtle (*Vinca minor*), *Pachysandra*, and *Ajuga* are very compatible and should be used to reduce or eliminate weed growth, thereby reducing maintenance to a minimum.

Varieties

There are many rhododendron and azalea species and hybrids entirely hardy for growing in the midwestern garden. *R. maximum* does especially well in the shade, blooming in early July. While the bloom is interesting, the plant is used more for texture than bloom. *R. mucronatum*, *R. vaseyi*, *R. periclymenoides*, *R. calendulaceum*, and *R. viscosum* are among these hardy species.

There are literally hundreds of rhododendron hybrids in production in the United States. Unless the home gardener falls into the category of the small group of rhododendron fanciers that is able to spend a great deal of time in the garden working

with the “border line” in hardiness group of rhododendrons, it is advisable to stick to those of proven hardiness. Here there are reds, such as ‘America’, ‘Caractacus’; whites such as *R. catawbiense album*, ‘Boule de Neige’, ‘Cunningham’s White’; purples such as ‘Lee’s Dark Purple’; pinks such as ‘Scintillation’, ‘Mrs. C. S. Sargent’; rose-pinks such as ‘Roseum Superbum’, ‘Roseum Elegans’; and, of course, many others. These are suggested for the beginner. There are also hundreds of azalea hybrids, both deciduous and evergreen. The Exbury, Knap Hill, and Ghent hybrids, all deciduous, come in a wide array of flower colors and have proven hardy in the Midwest.

The evergreen types, unless ideally located in the garden, may need some protection over winter. Since protection is not needed until after Christmas, discarded Christmas trees will serve admirably for this purpose. Simply remove the boughs and place them tips upwards around the plants with stem end pushed slightly into the soil for support. The boughs will protect the plants from wind, snow, and ice breakage, and especially winter sun. Protection is usually most needed during March, when the days may be very cold, windy, and sunny, a combination that may cause havoc to foliage, blossom buds, and even the entire plant.

Uses in the Landscape

Rhododendrons and azaleas have an outstanding capability for use in the home landscape. They may be used in foundation plantings, shrub borders, and they are also ideally suited for naturalizing. They come in a wide range of sizes, forms, textures of leaf and stem, and leaf and flower colors. When creating a landscape with rhododendrons and azaleas, always consider the use of companion plants to enhance the beauty of the landscape composition. Hemlock, Douglas fir, and white pine are among the finest tall-growing evergreens for the background planting. White and gray birch clumps will add charm throughout the year. Juneberry (*Amelanchier* sp.) clumps will provide early flowers and fruits that the

catbirds, brown thrashers, robins, and other fruit-eating birds will delight in. Flowering crabapples and Japanese flowering dogwood (*Cornus kousa*) make perfect companions, not only because of flowers and fruit, but also for the soft shade they may afford.

Of the many shrubs that may be used, four of my favorites are the tree peonies, red-veined *Enkianthus*, Burkwood viburnum (*Viburnum x burkwoodii*), and the blueberries. The flowers of the tree peony will add a boldness to the azalea planting, blooming with ‘Fedora’ and the other Kaempferi azalea hybrids, after mid-May. I like the Burkwood viburnum because the flowers fill the air with a delightfully spicy fragrance, enticing one to pass its way while walking through the garden. The leaf and form of this viburnum add interest throughout the year.

Enkianthus provides interesting form and flower with striking yellow, apricot, and orange fall foliage color. Blueberries are delicious; however, the birds will very likely harvest them before the gardener gets a chance. Their fall leaf and stem colors during the winter complement the garden scene. The judicious use of yews and Japanese holly will complete the picture, bringing beauty throughout the year.



On a recent Lake Michigan Chapter tour of the Mann garden, members are shown in front of the garden room Mann built to better enjoy one of the grassy walks in his garden. Shown right is Gable hybrid ‘Rose Greeley’, which is white with a pale green throat. (Photo by Tony Greco)

Charles Mann (1912-2001) was a native of Virginia who first became interested in gardening while he was a boy living in the Southern estate of Thomas Fortune Ryan, a New York financier, where Mann’s father was manager of the greenhouses and gardens. He was a graduate of Ohio State University, where he specialized in ornamental horticulture and landscape design.

In 1946 Mann established The Flower Basket, a nursery and landscape service in Saugatuck, Michigan. He specialized in growing “the better type of ornamentals,” and was one of the first to grow rhododendrons, azaleas, and hollies successfully in the state. He designed and constructed a series of gardens on his home grounds adjacent to the nursery. Here he developed garden rooms and outdoor living areas, creating vistas through the use of different elevations and by the incorporation of terraces, sunken gardens, and stone walls.

Soil Notes—And That's the Truth! Part II

Barry Sperling — Alexandria, Virginia

[This article covers the soil mixes used by a non-representative collection of azalea growers in the Middle Atlantic States and is not meant to be the definitive essay on soils in general, Ed.]

Did you ever notice how some of the greatest sports stars are busts as coaches? How can this be? One possibility is that they don't **know** how they perform their magic: it is just natural. When I started growing azaleas here in northern Virginia and needed to find out about the best soil for them, I ran into this same "self-selection" problem.

Self-selection means that many of the people who enjoy azaleas do so because the plants are so easy to grow. When asked about soils and planting, they shrugged and said that they just stuck twigs into the ground and these grew into 10-foot bushes covered with flowers. No wonder so many ASA members are from the Southeastern and Middle Atlantic states! If you read my first article [*The Azalean* March 2000, 22(1): 10-11], you might remember that the debris-strewn clay fill around my house is inimical to all plant life and could be used as a herbicide. I had to make my own soil, read a lot, and ask many people how to do it. The task was made more difficult by the self-selection characteristic, but over time I found people who had done a little work and were willing to talk about it. This second article covers what they said.

We'll start out by covering soil for plants in the landscape (that is how most of us see or imagine them), then soil in pots, and finally, for the specialists, soil for seeds and cuttings.

Plants in the Landscape

Biochemistry 101

The first bit of chemistry we apply as gardeners is in reading fertilizer labels. The prominent three numbers in a row stand for Nitrogen (N), Phosphorus (P) and Potassium (K). Make sure to get a soil test, revealing where things stand and what needs to be added. Following is just a review, based on what you've read many times in the books listed at the end:

Nitrogen: Necessary for growth, and a factor in chlorophyll, it is easily leached out in most forms and needs to be replenished yearly. Mulches will release N during decay if they are not very woody, but woody mulches (hardwood sawdust is the worst) will absorb a lot of N while rotting and should be avoided. [Side note: Don

Voss said that a fungus that grows in hardwood mulch may make it impervious to water. Don Hyatt felt that toxic trace elements could build up with its usage, too.] As growth after midsummer risks being lost in freezing weather, N applications are usually safest from late winter to mid-spring. Nutrient uptake seems less efficient in azaleas than in a lot of other plants and this has encouraged people to claim that you should give them little or no N beyond what is in the soil. Since I am holding the floor in this article, I will state my personal opinion, not backed by scientific study. More (than most people give them) is better, and it varies a lot with the type: a fast growing, large-leaved plant needs a lot more than a slow growing, low plant with small leaves. In a perfect world researchers would be studying this and then give us values for the pounds of N used by specific hybrids of specific sizes. In the real world, not in my lifetime. I intend to experiment with my more-is-better theory, but be aware that conventional wisdom is the opposite.

Phosphorus: P is used in the maturing of the plant in general, growth, flower bud initiation, and hardening off. A deficiency may lead to pale flowers and less growth. It is relatively insoluble, so it should be included in the soil mix prior to planting, but can be sprinkled on the top later, if needed. A little granular triple-superphosphate is easily mixed and spread. Since it doesn't leach away easily, it shouldn't be applied yearly, unless deficiency symptoms appear (little new growth, very dark leaves with purple spots underneath).

Potassium: K is also rather insoluble and needn't be added yearly. It is necessary; but, similar to enzymes, it helps the development of much of the plant without actually becoming part of the root and stem structure. K deficiency leads to iron deficiency, which shows up as chlorosis (yellowing of the leaf between the veins). However, calcium and magnesium deficiencies look the same; so, once again, a soil test gives you food for thought.

Soil Mixes

Frank Reger recommends as much humus as possible in your soil mix. Humus is an amorphous conglomerate, clumping irregularly with many air spaces. Water will dis-

solve nutrients from the surrounding humus making them easily available to the roots in those spaces. In contrast, compost still has recognizable bits of debris, making the nutrients less accessible.

As I am writing this, a discussion on the ASA's e-mail list is covering the beneficial fungus mycorrhizae. The argument for this fungus is that azalea roots have no root hairs and that mycorrhizae convert nutrients into a form that is more easily available to azaleas. Galle (p. 318) notes that the fungus actually penetrates the root cells and delivers nutrients directly. Air spaces encourage this fungus, which is more common in older plants and rare in new plantings.

Air spaces are absent in heavy clay soils, and, again on the e-mail list, Tom Hughes has had an excellent tutorial on the use of a calcium clay-breaker such as gypsum. He says that clay particles are thin, flat plates that are covered with negative ions, making them slippery, by repulsion, thus not leaving any air spaces. The calcium replaces the negative ions with positive ones and the particles stick together in larger aggregates (flocclulate) thereby leaving the desirable spaces for air and water.

Recommendations of Local Experts

- Don Voss has good soil without amendments, but has mixed fine pine bark with his soil.
- Joe Klimavicz mixes fine pine bark and compost, as deeply as he can go.
- Barbara Bullock recommended digging the planting hole 1 foot deep and filling with 2/3 of the mix as original clay soil, 1/3 "new stuff." The soil surface should be irregular to prevent runoff, and oak leaf compost should top it. She noted that if the improved soil is like a pot, holding water, cut a path from it to good drainage.
- Charles and Wanda Hanner make a mix of good soil and humus with the top of the root ball 2" above the soil, in a tapered mound, then mulch to form a bowl.
- Jane Newman plants with peat moss, ground-up pine trimmings and yellowish, coarse builder's sand, all mixed in with her clay. Ferrous sulfate is dumped, as a powder, near the roots, but she doesn't use fertilizer.
- Bob Stewart maintains one of the more unusual outdoor plantings. He makes large pots from 55-gallon drums, rather than using the ground, to avoid competition from tree roots. He checks underneath them with a lever, on occasion, and cuts any such roots rising up out of the soil and into the single large drainage hole. The mix is 50% fine pine bark, which has aged outside for a year, and 50% local soil with a leaf compost mix. (The wooden bin he uses to compost the pine bark is 4 ft x 4 ft, built of unfastened stacks of 2" x 8" lumber. Thus, it is easy to break down the bin and get at the compost.)

- Milt Lerner builds large beds with 4" of construction sand as a base followed by leaf mould and dirt, tilled to a depth of 2 ft on top of the sand. A large area of his backyard is devoted to the rotting leaf mould, which had been cut up by a lawn mower when the leaves first fell.
- Bruno Kaelin also prefers beds to holes. He lives on a 6:100 slope, which is good for drainage. In areas that are not well sloped, he makes raised beds, or puts the plants on top of the soil, then slopes up the amendments. He uses 2/3 clay soil and 1/3 compost (leaf mould and mown grass, composted for a year or two). Superphosphate is tilled in, and, if he needed potassium he would use Greensand, but he doesn't. His mulch is hardwood chips, not sawdust, refreshed yearly. This is in contrast to the notes above in the "Nitrogen" discussion. He feels that pine fines as mulch would block the air (they are good in the soil mix, though). A 1-1/2- to 2-foot saucer of soil is made to divert water toward the plant. Wesco granular azalea fertilizer is spread every year, using a scoop, from plant base to drip line. He believes that azaleas like a pH of 5.0-6.0, whereas rhododendrons prefer 4.0-5.0. If needed he would put ferrous sulfate on top of the soil to acidify it.

Personal Recommendations

So, after listening to the above, truly experts all, and others (whose notes I couldn't find...sorry...), I've come down to the following for my own attempts. My land is very flat, so raised beds are necessary to encourage good drainage and keep open the crucial air spaces. I dig down about 4", and from there, build a bed which is about 2" above ground level at the lowest, southeastern end, and raise it up about 1-1/2 feet on the northwestern end. This tilts the plants toward the morning light and helps shield the roots from the cold winter winds, which come from the northwest and west.

As for the soil mix, I have three:

1. The quickest, easiest and probably **lowest quality mix** is a 50-50 mix of a bag of pine bark and a bag of topsoil, with amendments of 2 shovelfuls of commercial organic humus, 1 shovelful of Perlite[®], 2 tablespoons of Epsom salts, 3 crushed tablets of pond-plant fertilizer (slow release), a light sprinkling of triple superphosphate, and a light sprinkling of garden sulfur. This is a quick mix for when I just received a lot of plants and want to put them in some kind of soil, but don't have the time to make the two higher-quality mixes below. This mix is put directly on top of the soil in a raised bed. Plants in this for about two years have refused to die.
2. This **middle-quality soil mix** takes about twice as long to mix as the first. It is about 1/2 native clay, crushed with a shovel to nearly a powder and then mixed 50-50 with a bag of commercial organic humus. This makes about 2 cubic feet. One shovelful of Perlite[®] is thrown on, about

1 cup of gypsum clay-breaker is put on the clay, and Epsom salts, fertilizer, sulfur, and phosphate are added, as above. This is mixed thoroughly and spread on top of the ground as a raised bed. Having done this for several years, I am surprised to note that the plants are very happy with it and grow as well as in the next, high quality mix, which takes a *lot* longer to make.

3. The **high-quality soil mix** forms the top 8" or 9" of the raised, tilted beds described earlier. The base of these beds is a 50-50 mix of native clay and bagged organic humus with no further amendments, filling the bottom and tilted up in the shape described. The high quality top starts as 1/3 powdered clay, 2/3 oak leaf humus-compost mix. If the clay is too wet, it can't be worked well and this job is put off for another weekend. The humus-compost mix is cleaned by hand to remove woody bits and undigested leaves (and rocks, toy soldiers, etc. Since this composting takes years in the pile, my son no longer has an interest in such discoveries). Amendments are similar to the above: 2 shovelfuls of commercial humus, gypsum, Epsom salts, fertilizer, sulfur, and phosphate. This is mixed to a smooth consistency and makes about 1-1/2 cubic feet (taking about 1 hour). This slow accretion of quality soil limits my ability to add plants, but Dave Nanney notes, with a wink, that this is a good thing, as I can give closer attention to each one. I'm so lucky not to be "burdened" with thousands of plants as he is! Anyway, the plants are not growing any better in this high-quality soil mix than in the middle-quality, which I can make more of in less time. If that remains the case after a few more years, I'll probably move to some version of the middle quality soil mix.

Soil for Pots

When our little ones aren't ready for the "Big Time" and need to stay in pots, there are again interesting varieties of materials and methods, though these are more similar than are the previous landscape methods. My experts offered the following advice.

Larger Pots

- Larry Martin uses a mixture of three items: a) 1/3 topsoil with sand, b) 1/3 very fine pine bark, and c) a 50-50 mix of Perlite[®] and sphagnum peat moss. This sits through the winter in the open, and is ready for use in the next year.
- Don Hyatt makes an even more complex mix: 4 to 6 cubic feet of peat moss, 4 cubic feet of Perlite[®] and 3 to 4 80-pound bags of coarse sand (currently Sakrete[®] brand). He avoids play sand or sand that might be high in salt or calcium. The above is 2/3 of the mix; the other 1/3 is composed of composted pine fines and composted oak leaves (that have been chopped up with a lawn mower).

- Bruno Kaelin puts 1/3 coarse peat, 1/3 coarse Perlite[®] and 1/3 pine fines in his pots.
- Don Voss uses 1/3 each of pine bark, Perlite[®], and sand, with 1/2" of coarse pine bark in the bottom.
- Bill Miller uses fine pine bark, peat moss, and sand or Perlite[®].
- Bob Stewart uses the same mix listed in the Landscape section above for his gallon pots.
- Joe Klimavicz's mixture is 1/2 sphagnum moss and 1/2 a combination of 2-year-old leaf compost and fine garden soil.

Smaller Pots

Slight differences may appear when using small plants and cuttings in 4-inch pots.

- Bob Stewart will put in 50-80% fine peat moss with the rest being Perlite[®].
- Don Hyatt will use the mix that makes up the first 2/3 of his potting mixture, as shown above, alone.
- Milt Lerner uses 1/2 pine bark, 1/2 half Perlite[®]. If he used sphagnum moss, it would only be the coarse type, which is hard to find. He has noted that a pH below 5.5 has killed his cuttings, so the acidity should be checked.
- Mike Creel, in the South Carolina midlands, sent me some extensive notes on a very unique and creative method of rooting cuttings and starting seeds outdoors, but the details are beyond the limits of this review. In essence, two different and fast-draining layers together half-fill a pot, which is then mostly covered by a clear plastic humidity dome. The diameter of the dome is smaller than that of the pot to allow for overhead watering. The lower mixture is made of coarser materials than the one above, both having a large component of pebbles. A very thin layer of azalea humus, which he collects from underneath his older plants, tops this. An interesting feature of his cuttings (unrelated to soils, but I'd like to pass it on anyway) is the use of branched cuttings, rather than single sticks, which are taken from low on the plant.

Growing From Seed

If you have the time, temperament, and facilities to grow plants from seeds, consider the following recommendations.

- Bob Stewart uses only sterilized, coarse sphagnum peat moss.
- Joe Klimavicz uses 25% Perlite[®] and 75% fine sphagnum peat moss. He finds the coarse peat hard to work with when separating seedling roots.
- Finally, nothing lasts forever on the Web, but Don Hyatt does have a link to his extensive instructions on

continued on page 19

Mastering Azaleas

Part 3. Azalea Propagation— Evergreen Cuttings

Joe Schild — Hixson, Tennessee

This next series of how-to articles will venture into the rewarding methods of propagating azaleas from cuttings from new shoots. If you wish to reproduce an azalea flower that is an exact copy of the flower of the parent plant, then cloning is the method and there are a number of tried-and-true ways of accomplishing the task. I mention only for reference here that among those methods are ground-layering, air-layering, and mound-layering, which are viable alternative means of cloning.

Some of the prostrate, low, or very dwarf azaleas will ground-layer themselves with no effort on the part of the gardener. Air- and mound-layering requires a concerted effort on the part of the propagator to succeed. New shoot cuttings require the same dedication, though they are easy to root if given the proper conditions of

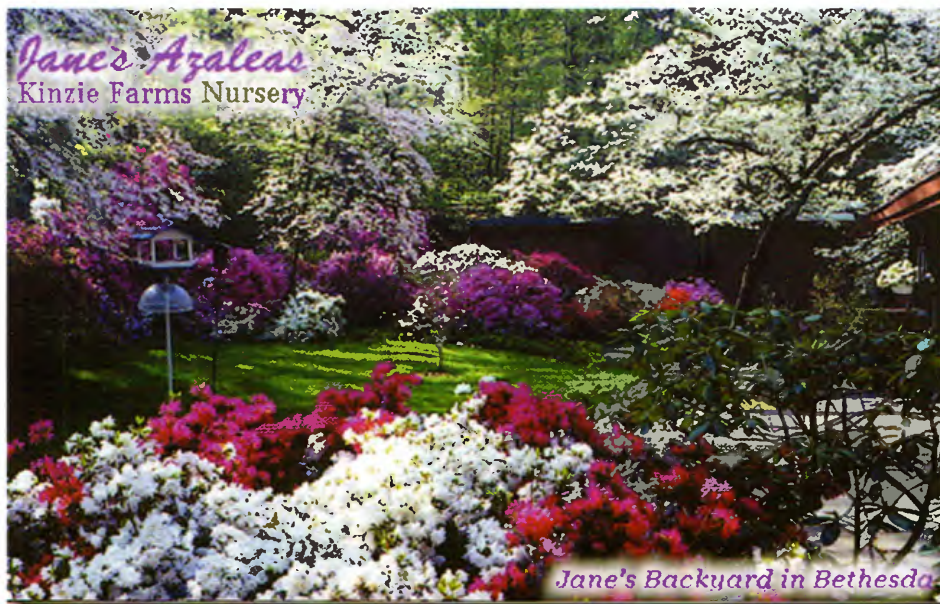
moisture, humidity, temperature, a well-drained medium, and light.

My first venture into rooting cuttings happened to coincide with my lack of knowledge of the correct methods and resulted in an astounding 100% success. There is a lot to be said about dumb luck, and ignorance is bliss. It was late into the season, actually November of 1967, when I prepared wooden flats with a mixture of 50% sphagnum peat moss and 50% coarse sand. The cuttings I took were hardwood, but I did give them a treatment of the rooting hormone aid Rootone*, stuck the cuttings, and placed the flats into a modified cold frame with heat tape running through (under) the medium, and light bulbs placed above the cuttings. A good friend told me that I should not expect the hardwood cuttings to root, but as stated above, we both were

amazed at the success that defied logic or the knowledge of the day.

Now, let us move on to the methods I have used through the years to root and grow evergreen azaleas with great success. Through trial and error, I have learned that we should take cuttings from vigorous, well-maintained mother plants. In my experience, I have learned that:

- Cuttings taken from plants that have been given a high dose of high-nitrogen fertilizer will result in fewer cuttings that root.
- Cuttings taken from plants that are wilted from lack of moisture will also have the same results.
- Cuttings taken from plants that are diseased or have numerous insect pests will also have lower rooting percentages.



Jane's Azaleas

- Over 150 Varieties Grown at our Montgomery County, MD Farm
- Healthy-Pest Free-Acclimated
- Photos of Blossoms on Website
- Landscape Architectural Design and Implementation
- Azalea Wellness Program – Licensed Pest Management
- Deer Damage Minimization Program (Repellents - Fencing - Netting - Resistant Plants)
- Licensed, Reliable, Educated Staff

Kinzie Farms

Tel: 301-365-4226

Fax: 301-365-0625

Email: Jane@KinzieFarms.com

Web: www.KinzieFarms.com

Thus, experience tells us to select from mother plants that are healthy.

Rooting Media

In what do we root our cuttings? Containers come in many forms. I have used milk cartons, flower pots, wood flats, plastic trays of many varieties, the one gallon plastic milk or water jugs, peat pots, and even Styrofoam® cups. All will work, if excellent drainage is provided, and the container is free of plant pathogens.

As with containers, soilless mixtures also come in many forms using various combinations of peat moss, sand, Perlite®, pine bark, or other coarse material, even small gravel. A lot depends upon the care you plan on giving the stuck cuttings. If you plan on sticking the cuttings and forgetting them for a while, then use more peat moss in the mix to retain moisture over a longer period.

The mixture I use is 30% coarse Perlite®, 40% ground composted pine bark fines, and 30% screened peat moss. I do root under a mist system that provides a timed interval of on/off mist during the daylight hours. Cuttings stuck in small containers may be placed in the Zip-Loc® type plastic bags and sealed to retain moisture. Another method utilizes a flow-erpot filled with the pre-moistened mixture, the stuck cuttings, and a clear three-liter drink jug placed over it. The pot is then placed in some shady place where direct sunlight does not over-heat the mini-greenhouse.

Do we use rooting hormones? I do use them with the evergreen cuttings, particularly with hardwood cuttings. Any of the trade named rooting aids work well, but as a rule, I use 2,000 ppm (parts per million) IBA for softwood or semi-softwood cuttings and 4,000 ppm for hardwood. Some propagators do not use any and have great success, even with dormant cuttings.

Taking Cuttings and Aftercare

How do we take and treat the cuttings? I prefer to take cuttings in the

morning when the temperature is cooler in June or July. I will often put the cuttings in a plastic bag and slip them in the refrigerator for chilling for 24 hours. This seems to aid the process, though I have no definitive proof. As I stick the cuttings, I remove all but the top three leaves, remove the flower bud that has formed, and sink the prepared cuttings in cool water. Some propagators use a bleach solution or a fungicide to prevent plant pathogens from forming, but that is optional.

How far apart do we stick the cuttings? Usually, I prefer to stick the cuttings about 2" apart or in flats on 2" centers. First, I plunge a 10-penny nail into the moistened mixture to make a hole, then slip the cutting into it and gently firm the soil around the stem with my fingers. Do not put the cutting all the way to the bottom of the container, for that will often cause it to die and rot. Once all the cuttings are stuck in a container, I gently mist them, cover, or put under the mist system. Do not allow them to dry out, but do not over-water.

How long will it take to root a cutting? In most cases, it will take about five to six weeks for roots to start forming along the lower stem. Do not pull or push on the cuttings to see if they are rooted, for that will break the tender roots and loss of the plant may result. Patience is preferred. Once you see new growth initiated, you may assume some roots have formed and that it is time to give the small plants some liquid fertilizer, but do not feed after late August.

I like to put the small plants in a cold frame for winter protection, though you may use a basement or heated garage for that purpose. My first rooted cuttings were put in a compost heap and mulched with pine needles for protection. It all depends upon your individual winter climate. In years past, I planted the rooted cuttings in beds, but do not wait too late in the fall season, or you may find them heaved out of the ground.

Pest Control

One last area to cover is pests. They come in many shapes and forms. Keep in mind that deer love to munch on the tender shoots of azaleas. So do rabbits, field mice, gophers, chipmunks, and an abundance of insects. The family dog or cat can become one of the pests. Our Great Dane of many years ago loved to dig and trample, and no amount of scolding ever broke her of those problems, but this topic will be discussed in a later article.

I hope you have found a few bits of information that help you propagate our favorite shrub, the azalea. Part 4 of the series will delve into rooting deciduous cuttings. If you have questions, please feel free to contact me.

References

Previous Mastering Azaleas Series articles by Joe Schild:

Part 1. "Don't Plant That Azalea in That Hole!" 2003. *The Azalean* 25(1): 16-17.

Part 2A. "Azalea Propagation—Seed Collecting, Cleaning, and Storing." 2003. *The Azalean* 25(2): 32-33.

Part 2B. "Azalea Propagation from Seed—Planting and Seedling Care." 2003. *The Azalean*. 25(3): 63-64.

Joe Schild has been an avid grower, propagator, and breeder of azaleas for nearly 35 years. He has owned and operated a niche nursery specializing in the species for over 14 years. Joe is the current president of the Tennessee Valley Chapter-ARS, immediate past president of the ASA (2001-2003) and a member of the Tennessee Nursery & Landscape Association. He says he is better known as an azalea nut and chases the natives' bloom each year with many fellow enthusiasts. Contact him at:

1705 Longview Street
Hixson, TN 37343
423-842-9686
azaleajoe@mindspring.com

Chapter News

Ben Morrison Chapter

Co-Editors: **Bob Hobbs** —

rwhobbs@mindspring.com

Carol Flowers — dflowers@bellatlantic.net

Bob Hobbs was the featured speaker at the February 8 meeting, where he gave "Choosing Azalea Varieties," a preview of his talk to be given during the Homestead Gardens Workshop on March 21. **Bob McWhorter** distributed a draft of the chapter's "List of Favorite Do-Good Azaleas," which he asked members to review and give him input for revision to include their experiences with azaleas that have done well in the weather extremes of the past decade.

President **Bob McWhorter** also showed slides that he and **Rosa** took during the ARS Convention, "2001—A Rhododendron Odyssey," which was held in Eugene, Oregon. Because they drove down the Oregon coast and into northern California, they were able to show photographs of 50-year-old Hedricks Park Rhododendron Garden in Eugene, Oregon, which has some 3,000 rhododendrons in 10 acres.

The March 21 Homestead Gardens Nursery Workshop included "How to Plant and Care for Azaleas" (**Barbara Bullock**), "Choosing Azalea Varieties" (**Bob Hobbs**), and "Installation and Maintenance of the Raindrip Watering System" (**Bob McWhorter**). All chapter members were invited to attend, as was the general public, in hopes they might invite others to join the ASA as a result of this workshop.

The chapter welcomes new member, **Angela Burgess**, of Lusby, Maryland.

Lake Michigan Chapter

Reported by **Tadeuz Dauksaz** —

td@att.com

The spring meeting was held March 21, 2004, to discuss the new Web site, topics for future meetings, and to continue detailed planning for the 2005 Society Convention to be

held in Holland, Michigan. The meeting was held at Fernwood Botanical Gardens and Nature Preserve in Niles, Michigan. This 105-acre facility has over 2,500 accessions, with 17,000 square feet of herbaceous beds and 12 theme gardens. The mission of the garden is "to enrich the lives of all people by stimulating the appreciation of nature, exemplifying harmony between people, plants, gardens, and wildlife, and using the distinctive natural and cultivated habitats known as Fernwood." Special collections include 47 taxa of hardy ferns, 140 trees and shrubs native to the St. Joseph River Valley, and a 5-acre tall grass prairie reconstructed on the site to preserve a gene pool of more than 150 species of plants native to the region. For more information, visit www.fernwoodbotanical.org.

Vice president **Sandra Wearne** has developed and posted the chapter's Web site. This can be found at www.azaleas-lake-michigan.org. The site has links to events, articles, and ASA and ARS events, as well as an online azalea discussion forum. To submit articles for posting to this Web site, e-mail information to martyanderson@ameritech.net.

Northern Virginia Chapter

Phil and Frances Louer,

Newsletter Editors

plouer@msn.com

February 22, 2004, **Dave and Sharon Raden** opened their home to the chapter meeting. The program was participatory: chapter members were invited to bring digital photos of their favorite azaleas on CDs. **Larry Martin** and **Dan Krabill** also showed slides. The Radens have a wide-screen TV with a computer nearby, so members were sure to have the best viewing conditions to see the highest resolution images

possible. The February "Azalea Clipper" suggested that members bring images in TIFF format from the RAW format. This jargon is very specific to digital photographers and means high resolution images can not only be captured by the digital cameras but also manipulated in a variety of ways by computer software graphics programs.

Continuing the technological advances, **Don Voss** has loaned all his Robin Hill hybrid slides to **Don Hyatt** to scan into digital format so they can be copied onto CDs for distribution to chapter members. **Phil Louer** scanned the Robin Hill articles and the details of each plant from the article in *The Azalean* [March 1995, 17(1): 4-19], and **Barry Sperling** proofed it and made corrections. **Don Voss** retains his copyright to the material but has given the chapter permission to enjoy it. (Consult www.donaldhyatt.com; click on Gardens, then on Robin Hill in the Rhododendrons and Gardens list.)

Finally, **Valerie Lorenz** and **Barry Sperling** co-authored an information sheet to introduce beginners to azalea care and culture and shared it with chapter members. After incorporating some member suggestions, this is now ready to be handed out at local garden centers to encourage more people to buy and love azaleas. **Barry** asked for volunteers to contact garden centers in their areas; two small ones near him were very receptive.

Oconee Chapter

Frank Bryan, Newsletter Editor

Rudie2rudie@aol.com

The November 9, 2003, meeting was held at the Cooperative Extension Service building in Conyers, Georgia. The speaker was **George Sanko**, whose topic was ferns and native plants. **Mr. Sanko** is the CEO of the Perimeter College

Botanical Garden in Decatur, Georgia. The fern collection is rated the 13th largest collection in the US and one of the top 40 in the world. They have one of the top 10 collections of temperate zone ferns in the South. The 4-acre garden was begun in 1990 and has a three-quarter-mile "easy walking" trail. They are open seven days a week, offer a range of "walk and talk" lectures, and hold plant sales of azaleas and wildflowers in the spring. For information on this garden, visit their Web site at www.gpc.edu/~ddonald/botgard/geor3.htm, or call 404-244-5001.

Sanko currently has 314 ferns, most of them hardy, but his target is 400. The garden contains all the native azaleas that grow in the Southeast, except *Rhododendron eastmanii*,

which is coming; *R. chapmanii*, which was lost to flooding and fire; and *R. minus*, which can't survive flooding. Highlights of Mr. Sanko's talk included discussions of sun garden plants, bog garden plants, unique shrubs, and shade garden plants.

For sun gardens, consider sweet, or pink, muhly grass (*Muhlenbergia capillaris*), which is pink until frost, stays in tidy clumps, and is drought-tolerant. Other sun-loving plants are red yucca (*Hesperaloe parviflora*), Arkansas blue star (*Amsonia hubrechtii*), Indian pink (*Spigelia marilandica*), the wild indigos (*Baptisia* spp.), and native lilies, including Canadian lily (*Lilium canadense*), Turk's Cap lily (*Lilium superbum*), and *L. michiganense*. Bogs should be in sun and made of 80% peat and 20% sand.

Include carnivorous plants such as pitcher plants and fruiting plants such as cranberries.

Unique shrubs Sanko mentioned are the titi (*Cyrilla racemiflora*), a 6- to 7-foot native now known only in cultivation that has evergreen leaves and many white fragrant blooms in June-July, Georgia fever bark (*Pinckneya bracteata*), sweet bell (*Leucothoe racemosa*), and a native *Pieris*.

For shade gardens, choose plants for diverse foliage effects, such as: yellow poppy as a companion with azaleas; Fothergilla; spurge (*Pachysandra procumbens*); the trilliums; and, of course, ferns. He grows the ferns in a chicken grit-soil mix to ensure good drainage, but pointed out that the ferns that grow in limestone can be grown in oyster shells.

In Memory

Theodore Van Veen, Jr. (1916–2003)

Ted Van Veen, Jr., of Van Veen Nursery in Portland, Oregon, died suddenly December 6, 2003. His father, Theodore Van Veen, Sr., had established the specialty nursery in 1926 and together they built a nursery, display gardens, and reputation that is known worldwide for the outstanding quality of its rhododendron hybrids, species, and azaleas. Ted took over the nursery in 1961 and in 1969 wrote the first book on rhodo-

dendrons illustrated with color photographs, *Rhododendrons of America*. This and *Rhododendrons You Should Meet*, which covers the over 500 varieties of rhododendron grown at the nursery, are both available at the nursery. In 1987 Ted took over as volunteer garden chairman of the Crystal Springs Rhododendron Garden in Portland, and, according to friend Mike Stewart, "Ted had a vision for the garden that far exceeded that

of anyone who had come before him. With the help of a very dedicated group of friends and fellow ARS members, their dream for a place of beauty and tranquility has come true." The garden is maintained by both the ARS and the Portland Bureau of Parks.

Ted's daughter, Kathy, is an expert in propagation, and is still running the nursery. You may contact the nursery at vanveennursery@cs.com.

The Azalea Research Foundation

Bob Stelloh — Hendersonville, North Carolina

The Research Foundation concept, like the Energizer Bunny, just keeps going and going...and now has accumulated funds of \$2,100 even before the foundation has been established. Perhaps that is because funding azalea research is such an obviously good idea. As envisioned by the late Dr. August Kehr, the Azalea Research Foundation would be organized as two separate entities, one to sol-

it and invest money and another to spend the income to fund solicited and selected azalea research proposals.

What the foundation needs to get started are some members willing to serve on either of these groups. So far we have one volunteer. The duties are important but not very time-consuming, which is a nice combination. The skills required on the

money side are motivating people and money management. On the research side, the skills needed are azalea knowledge and good judgment. There must be a dozen Society members among us with those skills and a little time available to serve in one of these roles.

To learn more, or to step up and serve, please contact Bob Stelloh or Buddy Lee.

Azalea Identification Please

Bill McDavit — Sunset Beach, North Carolina

Shown to the right is a photo image of an azalea we have nicknamed "Calabash Valentine." Mary and I have been trying to identify this variety since 1991 without success and are asking for help from Society members.

Here is what we know about this plant so far: It was an evergreen potted azalea in a full one-gallon pot that I bought at the Calabash Florist Shop for Mary for Valentine's Day in February 1991. I planted the azalea in May 1991 in an area on the north side of the house, not knowing if it was hardy enough to survive in the ground. To date (April 2004), the

plant has spread out (3-3.5 ft.), with minimal upright growth tendencies over its' original height, and has shown no signs of stress or tenderness. (Our hardiness zone varies from 8A to 8B, depending on the changing seasons.) This variety has continued to be very floriferous yearly, and blooms usually in the last week in March and the first week in April. The color varies from various shades of coral pink to very thin white edges, with a spotty bright red blotch, and is very ruffled hose-in-hose flower form.



Anyone who thinks they can help name this azalea should contact Bill or Mary McDavit at 910-579-2446 or by e-mail at osprey1@atmc.net.

New Members

The following members joined the Society as of April 30, 2004.

At Large

Richard E. Dodson
1246 Ferrara Drive
Ojai, CA 93023-3436
r2d2@dock.net

Hubert & Glenda Jones
2955 Shady Creek Lane
Marietta, GA 30062
770-973-2615
ghubertjones@yahoo.com

Faye H. Olive
209 Phil Watson Road
Anderson, SC 29625-1112

Margaret and Rick
Blackwell
6225 Franklin Gibson Road
Tracy's Landing, MD 20779

Ben Morrison Chapter

Angela Burgess
12075 Susan Lane
Lusby, MD 20657-2601
410-326-9646
antiquerose49@aol.com

Ann Waring
40475 Breton View Drive
Leonardtown, MD 20650
301-475-8206
annwar@gmpexpress.net

Brookside Gardens Chapter

Louis J. Appell, Jr.
1700 Powder Mill Road
York, PA 17403-4945
717-852-2300/717-741-2486

Yoriko Chin
12704 Danvers Court
Rockville, MD 20853
301-949-5705
mychin@erols.com

Lake Michigan Chapter

J. Craig Bolles
3934 Manitou Way
Madison, WI 53711-3011
608-238-1339
cbolles@meriter.com

Anthony P. Greco
6497 Cherokee Drive
Indian Head Park, IL 60525
708-246-1267
apgreco@sbcglobal.net

Kay Moats
406 South Wapella Avenue
Mt. Prospect, IL 60056
847-392-2004

Oconee Chapter

James A. & Linda S. Rollins
PO Box 22
Ochlocknee, GA 31773
229-574-5349
willows@rose.net

Vaseyi Chapter

Dr. Michael D. Cox, DDS
1529 Mulberry Street
Little River, SC 29566
843-249-9619
drmcox@sc.rr.com

Arthur Wellman
41 Fair Street
Hendersonville, NC 28792
828-697-7993



Official ASA Address

Remember the official Society mailing address is:

Azalea Society of America
c/o John Brown, ASA Secretary
1000 Moody Bridge Road
Cleveland, SC 29635-9789

Soil Notes – continued

“Raising Rhododendrons and Azaleas From Seed,” as well as other links to valuable information about cuttings, at <http://www.donaldhyatt.com/garden.html>

Conclusion

And the truth is... that all of the methods mentioned above are perfectly good ways of handling azaleas, which have shown a tolerance for a wide variety of conditions centered

around some common themes. Which of the combinations will be the best for you might depend on your microclimate, lighting conditions, local pests, or even air quality! Experiment with the above, and your own variations. Someday we will all know exactly what to do in every situation for every variety. Someday...

References

1. Galle, Fred C. 1987. *Azaleas*. Timber Press. P. 323ff.

2. Reiley, H. Edward. 1992. *Success With Rhododendrons and Azaleas*. Timber Press. P. 109ff.

Barry Sperling taught mathematics and computer science in Fairfax County for 31 years. He retired in June of 1999. He has since worked as a programmer, and is spending time learning about and disseminating knowledge on the azalea e-mail list and the ASA Web site. He is the current president of the Northern Virginia Chapter.

Azalea Survey

William C. Miller III — Bethesda, Maryland

Dear Azalea Enthusiasts:

From time to time, people ask me which azaleas they should buy. The people are usually from everywhere but here (Bethesda, Maryland), and they are really asking which azaleas will perform for them in Chicago, Quebec, Dodge City, Key West, Bogotá, Dover, and the like. It is not an easy question to answer because I have no experience in growing azaleas anywhere but in Bethesda, Maryland, and there are so many variables to consider—but I do my best to develop a reasonable response.

I conducted a modest survey in 1984 that was published in the June 1985 issue of *The Azalean*. The article was entitled “A Survey of Favorite Azaleas” and reported the responses of a small but representative

sample of ASA members selected for their expertise and location. They were asked to supply responses to a series of categories like: “Favorite Red,” “Favorite Foliage,” “Favorite Glenn Dale,” “Favorite Satsuki,” “Favorite Yellow Native,” “Most Heat-hardy Deciduous,” and “Most Unusual Evergreen Azalea.” Recent events suggest that it might be useful to launch a new survey.

Please take the time to thoughtfully complete both sides of the survey (using the copy that is reproduced on the inside covers of the wrapped stapled to this issue of *The Azalean*) and send the survey instrument back to me at your earliest convenience. Don't be concerned if you are unable to fill every category. Just do the best that you can. There are no wrong answers unless you tell me that a Gable

cultivar is your favorite Glenn Dale hybrid..... or ‘Windsor Buttercup’ is your favorite Exbury. If you are unsure of the classification, check with Lee, Galle, or a comparable reference.

While I'm asking for your name, address (including county), and phone number (for clarification purposes and for subsequent data analysis), your response will be confidential in the summary of results that will be published in a future issue of *The Azalean*.

Thank you.

Bill Miller
7613 Quintana Court
Bethesda, MD 20817
(301) 365-0692
bill@theazaleaworks.com

Azalea Survey

Please fill out this survey and send it to: Bill Miller, 7613 Quintana Court, Bethesda, MD 20817

Name: _____ Address: _____
Street, City, State, Zip

Phone: _____

Please list your favorite azalea in each category. Survey continues on next page.

Part 1: Evergreen Hybrids

Red	Bordered	Loblolly Bay
Pink	Foliage	Marlbank Farm
Purple	Early Bloomer	Belgian Indian
White	Mid Bloomer	Mayo
Striped, Flaked, or Sectored	Late Bloomer	Brooks
	Fall Bloomer	Monrovia

Southern Indian	Beltsville (Y-P)	White
Deckert	Beltsville Dwarf	Striped, Flaked, or Sectored
Vuyk	USDA	Bordered
Pennington	Back Acres	Ghent
Kerrigan	Bowie Hill (Clagett)	Mollis
Stanton	Stewart	Galle
Glenn Dale	Klimavicz	Occidentale
Kurume	Kehr	Beasley
Kaempferi	Carlson	Windsor
Robin Hill	Encore	Aromi
Linwood	Satsuki	Carlson
Girard	Low Grower	Sommerville
Dodd	Dwarf	Weston
Gable	Fall Bloomer	Girard
Marshy Point	Evergreen Species	Dodd
Greenwood	Evergreen from Hybrid Group Not Listed	Arneson
Harris		Knap Hill
Schroeder	Most Fragrant Evergreen	Slocock
Pericat	Most Cold-hardy Evergreen	Exbury
Nuccio	Most Attractive Fall Foliage	Ilam
Ring	Most Unusual Evergreen Azalea	Deciduous Hybrid From Group Not Listed
North Tisbury	Why?	
Pride		Most Fragrant Deciduous
McDonald		Most Cold-hardy Deciduous
Gold Cup		Most Heat-hardy Deciduous
Huang		Most Unusual Deciduous Azalea
Rutherford		Why?
Hershey		
Eden		
Shammerello		
Carla		COMMENTS:
Hager		
Holly Springs		
Chisolm-Merritt		
Belgian-Glenn Dale		
	Part 2: Deciduous Azaleas	
	Yellow Native	
	Pink Native	
	Orange to Red Native	
	White Native	
	Deciduous Species	
	Red	
	Orange	
	Yellow	
	Pink	
	Purple	