Atlantic Coast Camellias

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ATLANTIC COAST CAMELLIA SOCIETY

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COVER GRAPHIC

Our cover graphic depicts an anemone form camellia bloom. The sketch is reprinted courtesy of Ornamentals South Magazine, Atlanta, Georgia.

IN THIS ISSUE

A MESSAGE
FROM OUR
PRESIDENT

RICHARD L. WALTZ

BALTIMORE, MARYLAND

Dear Fellow Camellia Growers:

What a fantastic blooming and show season we have had! Jan and I attended several shows over the winter and all were above the show chairmans expectations. I would like to thank the individual show chairman who handled all of the shows. Being show chairman is not an easy job, but the reward of seeing hundreds of blooms on display and hearing the comments of the public as they view the show, surely goes a long way toward making it all worthwhile. Once again, congratulations to all who have helped make the shows successful.

The plans for the annual meeting in Myrtle Beach are coming together well. The same format as last year will prevail. A schedule will be distributed at the Spring Board Meeting in May and published in the next issue of this magazine.

In the past, I know I've asked each of you to do your best to get new members for our society, and I am continuing to make that appeal. When I attended the judging school at Massee Lane this Spring, this very topic was discussed at length. There are several things that local societies have done to promote membership. These included the availability of plants at a reduced cost, plants for sale at the local show, and talks at local garden clubs. Some of these things might work in your society or, you may have some additional suggestions that might help another society. I ask that each of you exchange ideas to help promote additional members. The people are out there and we have to find the right reason for them to join.

I hope that each of you have an enjoyable summer and Jan and I will see you in Myrtly Beach, September 30 - October 1, 1988.

Richard L. Waltz

NORTH GEORGIA CAMELLIA SOCIETY SHOW

Atlanta, Georgia **February 20-21, 1988**

Best Japonica (Open)	*Valerie*	Rev. & Mrs. Bonneau Dickson Atlanta, GA.
Runner up	*Pink Perfection*	Marian & Chas. Dils Tampa, FLA.
Best Very Large Japonica (Protected)	*Tomorrow Park Hill*	Mr. & Mrs. Oliver Mizell Elloree, S. C.
Best Large Japonica (Protected)	*Ruffian*	Mr. & Mrs. Frank Jamison Ft. Valley, GA.
Best Medium Japonica (Protected)	*Dixie Knight Supreme*	Ann & Mack McKinnon Lugoff, S. C.
Best Small Japonica (Protected)	*Grace Albritton Blush*	Geo. & Jane Griffin Nashville, TN.
Best Miniature Japonica (Protected)	*Man Size*	John T. Newsome Atlanta, GA.
Best Reticulata (Protected)	*Jean Pursel Blush*	John T. Newsome Atlanta, GA.
Runner up	*Dr. Clifford Parks*	Mr. & Mrs. Teague Columbia, S. C.
Best Hybrid (Open)	*Charlean*	Ann & Mack McKinnon Lugoff, S. C.
Runner up	*Charlean*	Ann & Mack McKinnon Lugoff, S. C.
Tray of 3 Japonicas	*Tomorrow Pink Hill*	Mr. and Mrs. Oliver Mizell Elloree, S. C.
Tray of 3 Reticulatas	*Howard Asper*	Ann & Mack McKinnon Lugoff, S. C.
Best Seedling	*# 359*	Dr. Walter Homeyer Macon, GA.
Best White Bloom	*Seafoam*	Mr. & Mrs. Wm. C. Robertson Aiken, S. C.
Best Novice Bloom	*Lady Kay*	Paul DuBose Tampa, FLA.
Gold Certificates: (Open)	Paul DuBose	Tampa FLA.
(Protected)	Geo. & Jane Griffin	Nashville, TN.
Silver Certificates: (Open)	John Comber	Pensacola, FLA.
(Protected)	Ann & Mack McKinnon	Lugoff, S. C.

Court of Honor (Open)

Carter's Sunburst	Paul DuBose	Tampa FLA.
Debbie	John T. Newsome	Atlanta, GA.

Court of Honor (Protected)

Tomorrow Pink Hill Blush	John T. Newsome	Atlanta, GA.
Carters Sunburst Pink	Ann & Mack McKinnon	Lugoff, S. C.
Elizabeth Weaver	John T. Newsome	Atlanta, GA.
Little Babe	John T. Newsome	Atlanta, GA.
Tammia	Geo. & Jane Griffin	Nashville, TN.
Valentine Day Var.	Ann & Mack McKinnon	Lugoff, S. C.
Debbie	John T. Newsome	Atlanta, GA.
Swan Lake	Paul DuBose	Tampa, FLA.

"THE JUDGES HAVE SPOKEN"

By Ray Bond [1]

"The Judges Have Spoken" is a yearly review, published in the **American Camellia Society Yearbook.** But, what does it really tell us?

On the surface, it tells what camellia blooms won awards as best in their class, in all the ACS shows, the preceeding year. But, does it tell us anything else? Are there any trends? What are the big winners? Curiosity got the best of me.

For fun(?) and definitely not for profit, I decided to enter the latest ten years of winners as published by the **ACS Yearbook,** in my computer. The Apple could handle it, I could not: too much time. I changed my ambitious undertaking to the latest five years. The latest entries in the computer are from the 1986 **ACS Yearbook,** the 1987 **ACS Yearbook** not having been published at this writing. As soon as it is, I will add its data to this list. Remember that this data in the **ACS Yearbook** is, by necessity, a year behind.

The program was developed for another purpose, so it had to be modified to fit scoring camellias. I had to change it in order to leave room for future entries, blooms which have not won in the last five years, but will win in the future.

To make the job a little easier, I eliminated blooms from the first three years which showed only one or two winners in that period and nothing since then. On the other hand, if a bloom won in the latest two years, it was left on the list.

It took about four weeks of evening work to complete the program modifications and keying into the computer. Then it had to be de-bugged and proof read, which took more time. There are still a few mistakes in it, but nothing major. If I have left out your favorite winner or if you find mistakes, please let me know and I will correct the list, accordingly. Bear in mind that this information must be further edited for space in this publication.

What did I find? Hody Wilson would be proud: Man Size is the biggest winner over everything, by a wide margin. Ville de Nantes is a steady japonica winner as are Betty Supreme, Grace Albritton, Charlie Bettes and Tomorrow Park Hill.

Among the retics, Dr. Clifford Parks has the distinction of being champion, going away, followed by Harold Paige. Francie L., Jean Pursel, Lasca Beauty and Valentine Day, all do well with the judges. The hybrids without retic parentage are coming on strong, with Elsie Jury as the favorite, followed by Charlean, Debbie and Mona Jury, in that order.

There are some interesting speculations which can be made. There are some trends, which I shall not try to identify or interpret. There are too many of you who know more about camellias who can do it better. It is interesting and it will be fun to watch and keep up to date.

1 Ray Bond lives in Raleigh, N. C. where he owns Sales/Marketing Consulting Services.

TOP RETICULATA SHOW WINNERS

No.	Name	1982	1983	1984	1985	1986	Total
1	Dr. Clifford Parks	20	29	20	23	24	116
2	Harold L. Paige	9	15	11	9	26	70
3	Valentine Day	16	18	4	11	13	62
4	Jean Pursel	11	10	9	6	16	52
5	Lasca Beauty	13	15	10	6	7	51
6	Valley Knudsen	7	7	6	6	10	36
7	Francie L.	9	7	6	9	4	35
8	Miss Tulare	10	2	6	9	3	30
9	Curtain Call	8	5	5	2	9	29
10	Pharaoh	8	4	2	3	12	29
11	Hulyn Smith	3	2	3	7	12	27
12	Mouchang	3	6	6	4	7	26
13	Black Lace	6	4	3	4	8	25
14	Terrell Weaver	3	6	3	3	6	21
15	Nuccio's Ruby	7	3	3	1	5	19
16	Valentine Day Var.	3	4	4	2	6	19
17	Arcadia	0	4	3	5	4	16
18	Aztec	4	0	6	2	3	15
19	Francie L. Var.	4	6	2	0	3	15
20	Bettie Ridley	3	1	0	2	6	12
21	Lillette Witman	3	4	1	1	3	12

Editor's Note:Several things should be pointed out concerning the manner in which we edited Ray's tabulations. (1) The varieties were not listed in alphabetical order. Instead we listed them according to the number of times that they won in shows. (2) Results were accumulated for the entire United States. It has been pointed out that there are differences in the winning varieties between the west coast and east coast depending upon show rules, etc. (3) Miniatures were included in these tabulations.

It is interesting to note which varieties are doing well, and vice versa. Varieties which seem to be coming on strong include Little Babe Var., Elegans Supreme, and Charlie Bettes. Those not doing as well as in previous years include Kitty, Mathotiana, Fircone Var., and Pink Perfection. Stead winners year in and year out include Mansize, Ville de Nantes, Tomorrow Park Hill, Betty Sheffield Supreme, Tammia, Guilio Nuccio Var., and Carter Sunburst.

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Bulletin Board

We have had a request from Pepinieres Roue & Cadiou for sources of Dr. William Ackerman's hybrids. If anyone has scions, rooted cuttings, or bare-rooted plants of any of the Ackerman hybrids, particularly Frost Prince, Frost Princess, Frost Queen, Snow Flurry, Winter's Hope, or Winter Star, please respond to the following address.

Pepinieres Roue & Cadiou
G.A.E.C. de Kerangoue
29234 Plouigneau, France

TOP JAPONICA SHOW WINNERS

No.	Name	1982	1983	1984	1985	1986	Total
1	Man Size	32	24	20	23	44	143
2	Ville de Nantes	24	20	12	17	22	95
3	Tomorrow Park Hill	20	25	11	12	20	88
4	Grace Albritton	21	18	18	4	21	82
5	Helen Bower	11	14	9	9	22	65
6	Betty Sheffield Supreme	10	18	14	9	12	63
7	Tammia	13	12	10	10	17	62
8	Charlie Bettes	7	11	12	12	18	60
9	Carter's Sunburst	12	10	8	10	17	57
10	Pink Perfection	16	11	11	10	9	57
11	Snowman	10	17	6	7	17	57
12	Elegans Supreme	8	7	11	9	21	56
13	Elegans Champagne	10	18	9	10	8	55
14	Elegans Splendor	10	18	9	10	8	55
15	Miss Charleston Var.	6	10	14	11	11	52
16	Guilio Nuccio Var.	14	9	11	4	10	48
17	Tomorrow's Dawn	11	13	4	8	12	48
18	Fircone Var.	10	9	13	7	7	46
19	Nuccio's Gem	9	14	9	9	4	45
20	Tomorrow Var.	8	8	9	5	14	44
21	Lady Kay	7	10	8	3	12	40
22	Magic City	7	5	11	4	13	40
23	Donckelarii	11	9	4	6	8	38
24	Feathery Touch	9	5	4	8	12	38
25	Tiffany	11	8	5	8	6	38
26	Swan Lake	6	5	2	11	13	37
27	Mary Alice Cox	7	9	3	4	13	36
28	Show Time	5	6	6	6	12	35
29	Campari	7	6	6	5	10	34
30	Little Babe	6	6	5	2	15	34
31	Mathotiana	10	7	7	7	3	34
32	Nuccio's Jewell	3	8	9	6	8	34
33	Sawada's Dream	8	9	5	6	6	34
34	Little Babe Var.	4	3	8	6	12	33
35	Hopkins Pink	7	5	6	8	6	32
36	Kitty	10	10	6	2	4	32
37	Dixie Knight Supreme	4	7	4	4	11	30
38	Guilio Nuccio	7	9	4	4	6	30
39	Mathotiana Supreme	3	7	5	5	10	30
40	Harriet Bisbee	6	5	7	2	9	29

TOP NON-RETIC HYBRID SHOW WINNERS

No.	Name	1982	1983	1984	1985	1986	Total
1	Elsie Jury	12	12	5	7	14	50
2	Charlean	11	10	9	4	10	44
3	Debbie	12	3	13	5	8	41
4	Mona Jury	5	6	9	8	12	40
5	Julie	9	5	7	4	11	36
6	Angel Wings	3	10	6	4	9	32
7	Anticipation	8	6	5	3	8	30
8	Pink Dahlia	3	3	6	4	10	26
9	Mona Jury Var.	1	3	6	9	6	25
10	E. G. Waterhouse	6	2	4	6	5	23
11	Julia Hamiter	2	3	2	4	10	21
12	Charlean Var.	5	2	6	5	2	20
13	Gay Time	5	6	1	4	4	20
14	El Dorado	4	3	5	3	2	17
15	Cinnamon Cindy	0	4	0	2	8	14
16	Freedom Bell	2	4	4	1	3	14
17	Julie Var.	1	2	3	4	2	12
18	Mary Phoebe Taylor	2	6	0	0	4	12
19	South Seas	1	0	0	1	10	12
20	Elegant Beauty	1	3	0	1	5	10
21	Spring Festival	0	4	2	3	1	10

Bill and Donna Shepherd, two of the Camellia's finest friends, celebrate their 50th wedding anniversary at the October ACCS Meeting in Myrtle Beach.

THE SPECIES PARENTAGE OF *'HOWARD DUMAS'*

By Dr. Takayuki Tanaka[1], Dr. Clifford R. Parks[2] and Walter F. Homeyer, M. D.[3]

[1] Currently visiting the University of North Carolina at Chapel Hill
[2] Dept. of Biology — University of North Carolina at Chapel Hill
[3] Macon, Georgia

The **Camellia japonica** hybrid *'Howard Dumas'* was selected from a cross between *'Elizabeth Boardman'* (seed parent) and *'Drama Girl'*. Some aspects of the foliage and flower are disturbingly a typical of the species **C. japonica;** thus, we have decided to investigate enzyme patterns of this cultivar, its putative parents and other possible parents to determine if *'Howard Dumas'* is indeed a product of the two **C. japonica** cultivars. It was demonstrated by Wendel and Parks in an article in the 1982 ACS Yearbook (pages 19 to 32) that enzyme variation can be used as evidence for cultivar relationships. Since in this case the cultivar in question has some characteristics that suggest some **C. reticulata** parentage, the enzymes of *'Howard Dumas'* will be compared to those of **C. japonica, C. reticulata** and their hybrids to identify a pattern of similarity.

The use of enzyme variation to show similarity or dissimilarity is very straightforward. Common enzymes, many of which co-occur in all living things, frequently are found in more than one form in an individual. These closely related forms of the protein molecule are more or less equally functional, and they can be readily separated on a slab of starch by running an electric current through the starch and making the enzyme visible by reaction with a stain. All members of the same clone of plants (a sexually propagated from one individual) will have identical enzyme patterns; and thus the technique is often used to test for clonal purity in agriculture and horticulture. In the exercise to be reported here, we want to determine whether *'Howard Dumas'* has enzyme patterns typical of **C. japonica** or patterns that suggest pollination contamination by **C. reticulata.** As an aside, you may be aware that these same methods are applied to cases of disputed human paternity with considerable success.

Procedure: Fresh leaves of *'Howard Dumas'*, its putative parents and about 30 other **Camellia** clones that might have been in the greenhouse at the time the cross was made by one of us (Homeyer) were extracted for enzyme analysis. The methods used to extract, separate and visualize the enzyme patterns are according to Wendel and Parks (1982. Journal of Heredity 73:197-204). The leaf extracts were assayed for 15 enzymes, but we will present the results here only for those that are most diagnostic.

Results and Discussion: Of the fifteen different enzymes assayed, results are reported for the three that seem to resolve the parentage question. The results for the enzyme PGM (phosphoglucomutase) will be presented first. (Although not critical to our story, it might be mentioned that forms of the enzyme PGM occur in all living things and mediate a reaction early in the respiration process.) A section of a gel separation of PGM enzymes is illustrated in Figure 1. Thirteen different leaf extracts are separated in parallel on the gel including

C. reticulata and its hybrids, **C. japonica** varieties, and *'Howard Dumas'*. The upper spots are controlled by a gene called PGM-1. Note that the **C. reticulata** individuals have a pair of faster moving bands while the forms of **C. japonica** have slower bands. *'Howard Dumas'* has the same bands found in its seed parent, *'Elizabeth Boardman'*. In addition to the bands of **C. japonica** cv. *'Elizabeth Boardman'*, you will observe that *'Howard Dumas'* has the characteristic **C. reticulata** bands, and this suggests that *'Howard Dumas'* is a hybrid between **C. japonica** and **C. reticulata.**

On a separate gel we separated the enzymes of the podmate of *'Howard Dumas'*. For PGM-1 this hybrid showed only **C. japonica** bands, and a pattern that is reasonable for the two putative parents, *'Elizabeth Boardman'* and *'Drama Girl'*. These results indicate that *'Howard Dumas'* resulted from a pollination in which the pollen of the intended male parent, *'Drama Girl'*, was contaminated by pollen from a cultivar of **C. reticulata** or one of its hybrids.

The results of the analysis of 6-PGD (6-phosphogluconate dehydrogenase) are presented in Figure 2. The sequence of plants analyzed is the same as in Figure 1. Notice that **C. reticulata** has faster bands while **C. japonica** has bands that are variously lower down on the gel. Again it is apparent that *'Howard Dumas'* has the characteristic bands of **C. reticulata,** and some of the slower bands characteristic of **C. japonica,** but these bands characteristic of **C. japonica** are very faint. The podmate of *'Howard Dumas'* has only the bands that are characteristic of **C. japonica.** The results of the analysis of 6-PGD enzymes also support the idea that *'Howard Dumas'* is the result of a mixed pollination - mixed by contamination with **C. reticulata.** Thus, *'Howard Dumas'* is some kind of hybrid with **C. reticulata** while its podmate is purely **C. japonica.**

Consider the results of an analysis of a third enzyme system TPI (triose phosphate isomerase). The TPI gel is shown in Figure 3 with the plant extracts arranged in the same pattern as in Figures 1 and 2. There are on Figure 3 two staining zones, TPI-1 and TPI-2, but we will only be concerned with the lower one, TPI-2. **Camellia reticulata** usually has three bands while **C. japonica** only has two, and of these, only one is common between the two species. The lower bands found in **C. reticulata** have not been observed in a large number of **C. japonica** clones studied in our laboratory. For this enzyme *'Howard Dumas'* is identical to its seed parent *'Elizabeth Boardman'*, and shows no evidence of **C. reticulata.** The podmate which was run on a separate gel, is purely **C. japonica.** The pattern for *'Howard Dumas'* for this enzyme is similar to some **C. reticulata** X **C. japonica** hybrids run on a separate gel, so for this enzyme hybrids may not necessarily show a conspicuous influence for **C. reticulata.**

Three other enzymes show bands characteristic of **C. reticulata,** and thus support the argument that **C. reticulata** is somehow involved in the parentage of *'Howard Dumas'*. Another enxyme shows a pattern that is characteristic of a polyploid which *'Howard Dumas'* would be if it is involved in hybridization with **C. reticulata** (diploid X hexaploid). The putative seed parent of *'Howard Dumas'*, *'Elizabeth Boardman'* has an overall enzyme pattern that reasonably fits that of a parent of *'Howard Dumas'*.

Hybridity with **C. reticulata** is also supported by several morphological characteristics. **Camellia japonica** has numerous corky warts on its leaves which are not found on the leaves of pure **C. reticulata.** *'Howard Dumas'* has only a very small number of these corky warts on its leaves. The leaves of common **C. japonica** forms lack hairs on the leaves while **C. reticulata** has them, and *'Howard Dumas'* has them. The pattern of teeth on the leaves suggest some **C. reticulata** parentage. All of the evidence from both the enzymes and the morphology support the notion that *'Howard Dumas'* has **C. reticulata** in its parentage. The pollination by two species that resulted in the formation of *'Howard Dumas'* and a pure **C. japonica** podmate was probably only possible because of the extreme inviability of the pollen from the triploid variety, *'Drama Girl'*. A few healthy pollen grains from **C. reticulata** would quickly outgrow the genetically unbalanced pollen of the triploid.

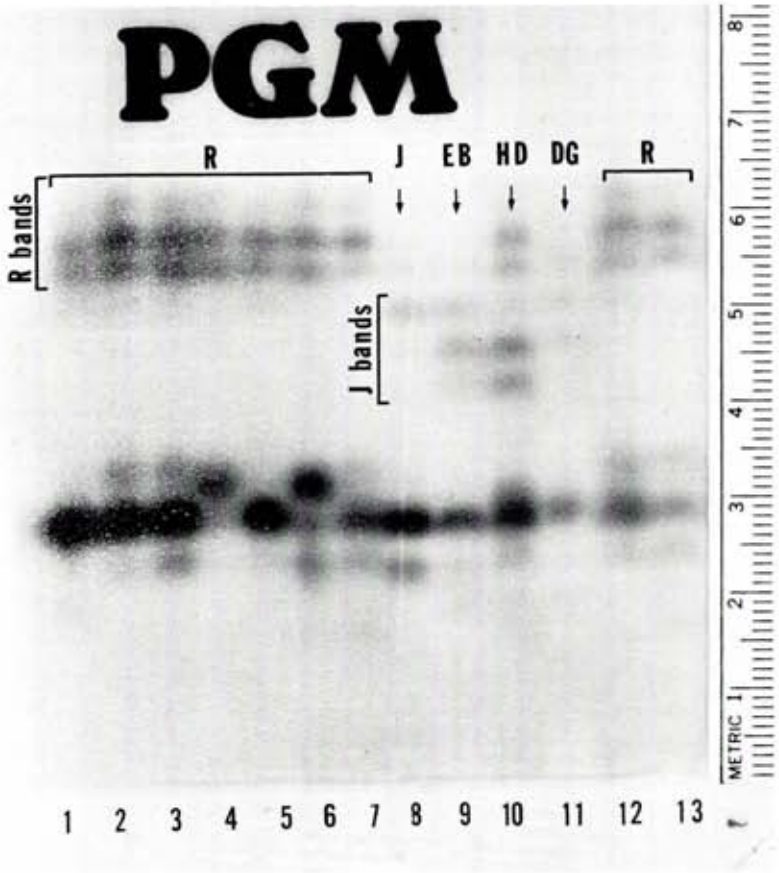


Figure 1. Photograph of a portion of a gel stained for PGM.

The thirteen extracts used on this gel were from the plants; 1: *# 578*, 2: *# 480*, 3: *# 65*, 4: *# 504*, 5: *Tali Queen*, 6: *# 63*, 7: *Crimson Robe*, 8: *60N10*, 9 *Elizabeth Boardman (EB)*, 10: *Howard Dumas (HD)*, 11: *Drama Girl (DG)*, 12: *# 666*, 13: *# 335*
1 - 7, 12 - 13: **Camellia reticulata (R)**
8, 9, 11: **C. japonica (J)**

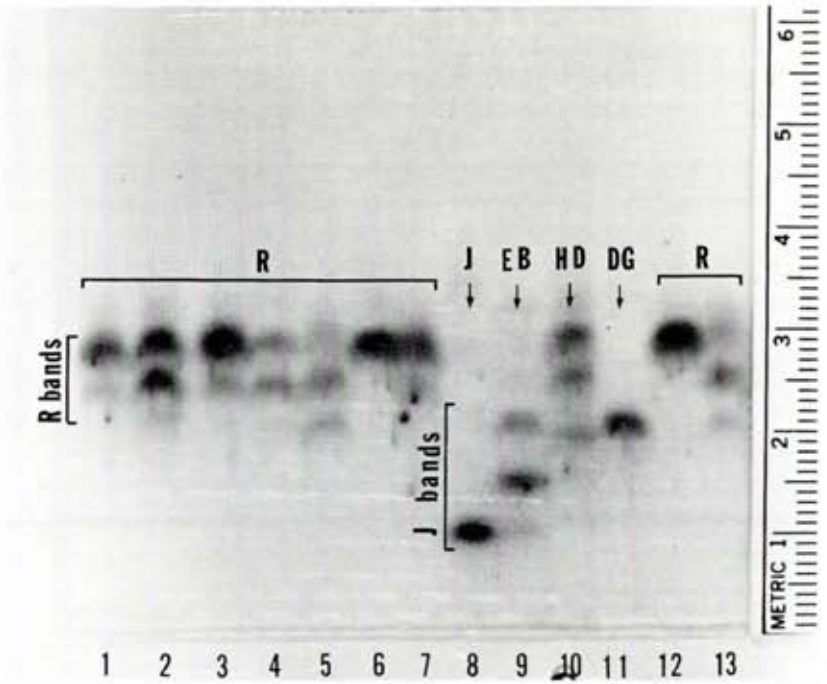


Figure 2. Photograph of a portion of a gel stained for 6-PGD.

See Figure 1 for the abbreviations used here.

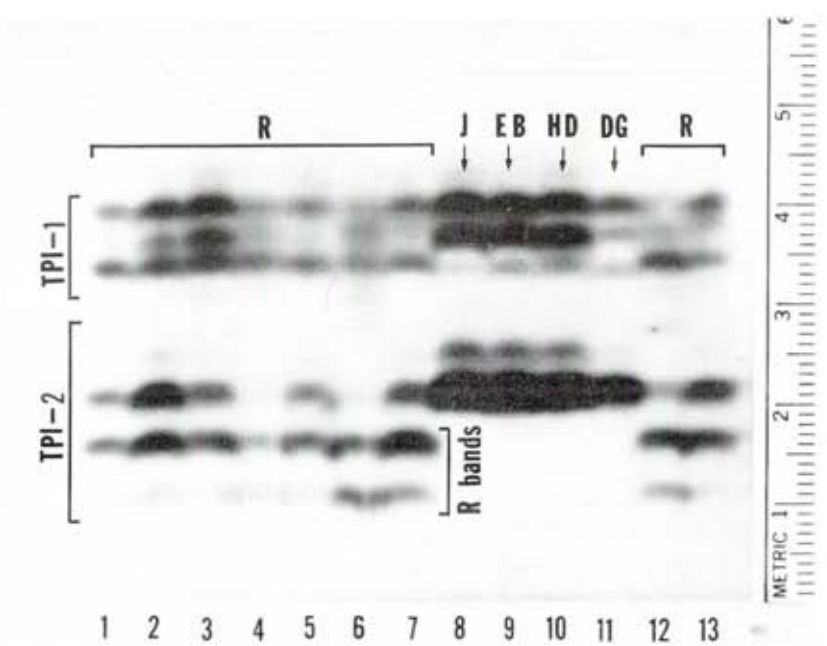
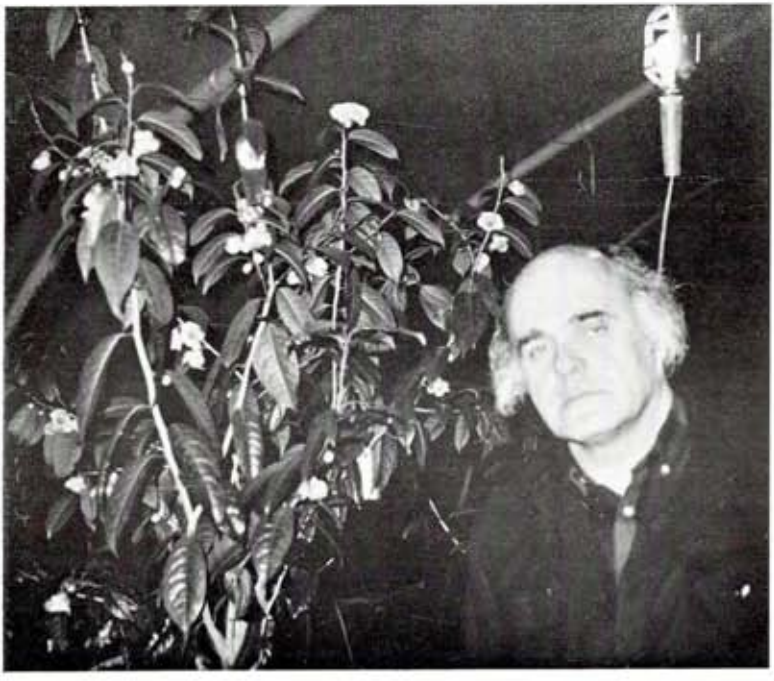


Figure 3: Photograph of a portion of a gel stained for TPI.

See Figure 1 for the abbreviations used here.



Dr. Clifford Parks in his greenhouse with a spectacular camellia chrysantha displaying over 100 blooms. (photo by Darden)

Let the games begin — Mildred Robertson and Annabelle Fetterman prepare blooms for competition in Charlotte. (photo by Shepherd)

MID-CAROLINA CAMELLIA SOCIETY SHOW

S. C. State Fair **Columbia, S. C.** **October, 1987**

Grown in Open

Large-Very Large	*Mathotiana Var.*	Donna & Bill Shepherd
Runner-up	*Indian Chief*	Donna & Bill Shepherd
Small-Medium	*Nuccio's Jewel*	Parker Connor
Runner-up	*Conrad Hilton*	Parker Connor
Best White	*Morning Glow*	Parker Connor
Sweepstakes		Parker Connor
Runner-up		Donna & Bill Shepherd

Protected

Large-Very Large	*Tiffany*	C. T. Freeman
Runner-up	*Claudia Fickling*	Annabelle & Lew Fetterman
Small-Medium	*Campari*	Annabelle & Lew Fetterman
Runner-up	*Aspasia McArthur*	C. T. Freeman
Best White	*Gus Menard*	Ann & Mack McKinnon
Sweepstakes		Annabelle & Lew Fetterman
Runner-up		Jack & Dot Teague

Retic - No Winner

Non-Retic Hybrid

Best Bloom	*Night Rider*	Parker Connor
Runner-up	*Anticipation*	Parker Connor
Best Miniature	*Fircone Var.*	Parker Connor
Runner-up	*Bon Bon*	Harold Fox
Seedling	*# 5*	T. L. Hoffman
Novice	*Daikaguara*	Greg Shannon
Species	*Jean May*	Lib Scott

CAMELLIAS: OLD AND NEW AT THE U. S. NATIONAL ARBORETUM

By Lawrence E. Lee
Curator, Asian Collections

Located at the northern edge of the "camellia belt", the U. S. National Arboretum in Washington, D. C., has a long and continuing interest in the use of camellias in the landscape. Before the devastating winters of 1976-7 and 1977-8, the Arboretum boasted one of the nation's finest collection of camellias with over 900 specimens. Although only a remnant of the original collection remains, the Arboretum has recently initiated an extensive cold-hardiness evaluation of **Camellia japonica** from germplasm collected from the species' northernmost range in Korea.

The camellia collection at the Arboretum was begun in 1949 with the gift of 100 **C. sasanqua** plants from the Garden Club of America. A gently sloping site was chosen for the collection overlooking the Anacostia River, in what is now part of the Asian Collections. Through the years, the collection rapidly increased and by the mid-1970's it contained a great diversity of cultivars, hybrids, and species, including 750 **C. japonica** cultivars, 120 **C. sasanqua** cultivars, **C.** x **williamsii** hybrids, **C. vernalis, C. hiemalis, C. oleifera, C. sinensis,** and **C. wabisuke.** By the 1970's, many of the early plantings had reached a height of 10 to 12 feet.

For many years members of the Camellia Society of the Potomac Valley induced a fine display of fall bloom with applications of Gibberillic acid on selected cultivars of **C. japonica.** Cultivars which responded well included: *'Are-Jishi'*, *'Daikagura'*, *'Glen 40'*, *'High Hat'*, *'Leucantha'*, and variety z. Plants treated in late August produced flowers by October and November which surpassed spring blooms in both size and quality.

During the winters of 1976-77 and again in 1977-78 temperatures at the Arboretum dropped to below freezing for weeks. These record low temperatures decimated the collection killing nearly every plant to the ground. Hundreds of dead stumps were removed, but many resprouted and now vary in size from several feet to over five feet. In most cases, it has not been possible to determine if the new sprouts are from varietal wood or rootstock. From many **C. japonica** stumps, however, have sprouted the **C. sasanqua** rootstocks **(C. sasanqua** was once thought to be the hardiest rootstock for **C. japonica).** A tentative inventory, subject to verification of flowering plants, has identified about 15 cultivars of the many resprouted stumps which have survived and rejuvenated reasonably well.*

*__C. japonica__ cultivars include: *'Bella Romana'*, *'Elegans' (Chandler var.)*, *'Elizabeth Le Bey'*, *'Jarvis Red'*, *'Kominato'*, *'leucantha'*, *'Margaret Dykes'*, *'Margarie Magnificent'*, *'Mary Charlott'*, *'Mrs. Goodwin Knight'*, *'Paulette Goddard'*, *'R. L. Wheeler'*, *'Tiffany'*, *'Vedrine'*, *'variety z.'*

According to Dr. William Ackerman, former research scientist at the Arboretum, most of the **C. sasanqua** cultivars resprouted less quickly than the **C. japonica** cvs., and were removed. An unusual exception, however, was a specimen of **C. sasanqua** *'Agnes O Solomon'* which suffered very little branch dieback. Now almost 12 feet tall, it produces a multitude of phlox-pink flowers each fall. This specimen is growing in a fairly protected location at the top of Asian Valley.

At the edge of the original plantings, a large specimen of **Camellia oleifera** also remained virtually unscathed by the extreme cold. Today, it is one of the Arboretum's treasured specimens, and is now 19' tall, with multiple cinnamon colored trunks having a total spread of 27 feet. Although other surviving **C. oleifera** in the collection have produced small seedling groves, this particular plant has set little or no seed ever since all the surrounding camellia plantings died — a factor which undoubtedly explains its more robust nature. Received as seed from the Lu Shan Botanical Garden, Kuling, China. This accession of **C. oleifera** was distributed by the Department of Agriculture as P. I. 162475 in 1949. Other species and crosses which have survived include **Camellia sinensis, C. Saluenensis** x **oleifera, C. wabisuke** (Shiro-wabisuke).

The Garden Club of America Camellia Garden at the U. S. National Arboretum in Washington, D. C., in April, 1969.

The devastation wrought by the terrible winters from 1976-1978, and subsequent winters certainly brought about new meaning to the term "marginally hardy" and spurred on the longstanding quest of horticulturists and gardeners for hardier forms of garden plants. In 1984, one of the key objectives of two U. S. National Arboretum led plant expeditions to South Korea was the collection of **C. japonica** germplasm growing on two islands in the extreme northwest coast of the country (just below 38 N latitude). Both Taechong and Sochong Islands represent the northern limit of the natural range of **C. japonica** and lie within sight of North Korea.

Previously unexplored horticulturally by Westerners, this area was visited by Barry Yinger, former curator of the Asian Collections, in 1982, who discovered remants of a population of **C. japonica** further north than those previously described. Later, the principal 1984 Expedition members include Sylvester G. March, and Barry Yinger, USNA; Dr. Darrel Apps, Longwood Gardens; Paul Meyer, Morris Arboretum; and Peter Bristol, Holden Arboretum.

A total of 66 accessions representing different collecting sites, plants, and seeds of **C. japonica** were made. Wild growing germplasm was often collected from exposed, rocky locations overlooking the ocean — prime sites for cold-resistant plants. Seed and cuttings of cultivated plants (often collected in the wild) grown in gardens or as bonsai were also collected in the local villages. Although, some variations in fruit size and shape, and leaves were observed, most of the accessions produce single reddish flowers typical of the species.

As a result of this collecting trip more than 2,343 plants were raised from seed and cuttings. This past summer and fall, these plants (1 - 1½ feet tall)

Camellias at the U. S. National Arboretum in April, 1957.

Thousands of blooms on the camellia walk at the U. S. National Arboretum, Washington, D. C. in April of 1969.

were planted out in uniform blocks in an open nursery site for cold-hardiness evalutation. Despite signs of minor leaf discoloration and bronzing, it appears that most of the plants (as of late February 1988) are surviving their first winter out quite well. Of course, this does not suggest that they are any hardier than existing garden varieties, especially since this winter has been a rather normal one for Washington, D. C. (the winter low temperature so far recorded is 2° F). With the prospect of evaluating more than 2,000 plants, we are hoping for an exceptionally severe winter soon!

The cold hardiness evaluation of **C. japonica** at the National Arboretum represents an important step in the search for a hardier camellia. The selection of new germplasm from Korea has a greater potential for cold-hardiness than that from Japan, which historically has been a primary source of landscape plant material for this country. In the next few years, as less vigorous plants are culled, the hardiest plants will be made available for plant breeding programs in hopes of preventing the disasterous effects of mass planting tender cultivars, and possibly extending the useful range of this valuable garden plant.

Lawrence E. Lee received his B.S. degree in Botany and Genetics from the University of California at Berkeley. He received the M.S. degree in Horticulture from the Longwood Graduate Program in Public Horticulture Administration at the University of Delaware. He now serves as the Curator of the Asian Collections at the U. S. National Arboretum in Washington, D. C.

THE "BARK AGES"

By Dr. Ted Bilderback
North Carolina State University

Pine bark is used at almost every container nursery in North Carolina and throughout the Southeast as the major potting medium component. Pine bark based container media are probably the easiest container media to grow plants in known to man. However, there are no real standards for pine bark handling as a container medium. Dr. Frank Pokorny at the University of Georgia has described a particle size range for milled pine bark which offers good physical properties for aeration and drainage. He reported that 70 to 80% of the particles should fall between 3/8 and 1/40th inch and 20 to 30% of the particles less than 1/40th inch or in the range that we might call bark dust. Beyond this information, we really are in the "dark ages about bark ages" or more specifically bark handling and storage. The need to age or store pine bark for long periods of time would seem to be questionable. With loblolly pine bark, our predominant bark, fresh bark has never been demonstrated to reduce nursery container plant growth when compared to aged pine bark assuming good management practices. Nevertheless, most nurserymen seem to have preference for "aged" pine bark. Aged pine bark may contain less wood fibers, be a little finer in particle size make up, wet more easily, retain more water, shrink less in the container, be easier to manage nutritionally and most noticeably smell more like something a plant would like to grow in than freshly debarked pine bark. Therefore, it has become common practice to stock pile pine bark before potting into it. This storage may be expected of bark producers or be done at the nursery.

Occasionally, leaf yellowing and leaf drop, suppressed growth, and plant death occur shortly after potting. These symptoms may be spotty over a block of plants. The nurseryman is left scratching his head about what happened. Excessive fertilizer and other poor cultural practices are usually the suspected cause and they may be. However, in some cases the aged bark is suspected. Immediate medium testing may show that pH is very low, possibly as low as 3.0, and the salts in the potting medium may read very high. If sampling is done 3 or 4 weeks after potting, no unusual chemical characteristic may be apparent. Diagnosis of such a mystery is very difficult.

We are now beginning to document and understand a few characteristics of pine bark storage. Frank Pokorny and I reported on bark storage problems at SNA this August and the report will be included in the 1987 proceedings. Dr. Bill Fonteno, my Floriculture container medium comrade at N. C. State Horticulture and I continue to work on pine bark storage. I have also had conversations with Drs. Campbell and Tucker and Richard Rhodes at the N. C. Soil Testing Lab. We are still operationg "On Theory" for much of our explanations of the phenomena that occur in storing pine bark in large piles.

Piling pine bark excessively high, over 15 feet or compacting it with heavy equipment probably does initiate physical and chemical difficulties. However, leaving even much smaller

uncompacted piles undisturbed for long periods of time (possibly 6 months) can also produce undesireable changes. Under such storage conditions heat may build up in the pile. The greatest temperature seems to occur about 10 to 14 inches below the top of the pile. We have recorded temperatures of 190° F in test piles. The literature indicates that once this temperature is reached, the temperature often spikes rapidly to a combustion point around 500° F. If the pile is opened, a gray mycelial band may be observed 24 to 48 inches below the top of the pile. This band is very dry and would be very hard to rewet. In a potting mix it floats. Within this band and below it, a pH test often reveals very low readings which can be as low as 2.0. If samples are collected and read later, pH may have changed considerably and be in the 3.0 to 3.8 range. In our SNA report, Frank Pokorny found that something other than the low pH alone in extracts caused plant phytotoxicity. We also learned that after reaching 21 days, the bark would reach a pH of 4.0, the expected range for pine bark. Addition of dolomitic limestone also equilibrated at expected ranges for amended rates after this time.

Another puzzling aspect of the bark chemistry involves conductivity or soluble salts tests. These readings may be as high as .35 mmhos/cm. Tests run by the Soils Testing Lab, indicate that some cations are high in such samples. A theory that all of us are working on now is that organic acids formed in the anerobic conditions of the pile act as extractants and pull salts from the bark which are free, detected by the conductivity meter and detrimental to plant growth. While we continue to work on these matters, our recommendations for nurserymen for pine bark handling are as follows.

Plan ahead. Order pine bark before it is immediately needed for potting. Position sprinklers to wet pine bark piles, to increase the water holding characteristics, and to reach any low pH or salts pockets.

If stock piling pine bark at the nursery, do not pile higher than 8 to 10 feet, do not run heavy equipment on the pile, and turn frequently, possibly once a month. If gray bands are observed, test for pH and conductivity, and irrigate to reach detrimental properties. Test again before potting.

Reprinted from "Nursery Notes"
North Carolina Association of Nurserymen

JOE AUSTIN — MASTER CAMELLIA GROWER

By Jim Darden

Joe Austin is an extraordinary Camellia grower. He is extraordinary in many ways, his expertise in Camellias being only one of his talents. Joe dabbles in the stock market, buying and selling stocks, bonds, options, precious metals, and other commodities. He generates more than a modest income in the market, usually between 5:00 and 8:00 a. m. Joe was a better than average nurseryman, owning and operating Joe Austin's Nursery during the late 1960's. But, his first love now-a-days is Camellias, and his spectacular blooms that we see so often at the head table are ample evidence of his abilities as a grower.

Joe and Mable Austin live now on their farm in Four Oaks, North Carolina. This small farming hamlet is nestled against Interstate 95 about 30 miles east of Raleigh. The lifestyle is slow and conservative in Four Oaks, and that is the way that Joe likes it. He makes no bones about his old fashioned philosophy, sometimes showing contempt for the mores of the 1980's. Whatever you do to Joe, don't take away his lifestyle, his cigars, or his Camellias.

It all began in the early 1950's. Joe had a barn to burn on his farm, so he journeyed a few miles northward to Wilson to visit a nursery run by a Mr. Pulley to purchase some privet hedge to screen off the remains of the barn. While looking through the plants at the nursery he saw a Camellia and was so taken by its beauty that he purchased the plant and took it home. Mr. Pulley also lent him a copy of the Camellia book written by Gus Gerbing. After looking at the beautiful blooms pictured therein Joe Austin was hooked. He felt then, as he does now, that Camellias are the most beautiful things he has ever seen.

Shortly after reading Gerbing's book Joe took off down old U.S. 301 southward with the Gerbing Nursery in Fernandino Beach, Florida, as his destination. The nursery grounds are now part of the Amelia Island Plantation resort, but when Joe arrived there over 37 years ago the nursery held a magnificent collection of azaleas and Camellias that Joe remembers to this day and will never forget. He loaded his 1½ ton farm truck to the gills before heading back to North Carolina. Joe Austin and Camellias were off and running.

By 1952 Joe decided that he needed a greenhouse, so he ordered a glass and aluminum model out of Boston that had been made in England. He erected the 20' x 40' unit on his farm and planted it full of Camellias. Since that time he has built a total of 19 Camellia greenhouses on his two farms and at his nursery. Currently he has three in operation.

In 1955 Joe began to show Camellias in the many Camellia competitions that were held at that time. He quickly became the man to beat as he tore into the head table with such a vengeance that he now has to have a full-sized farm house in his back yard just to hold his treasures. Touring his trophy rooms and viewing the glittering sterling silver and crystal is fascinating. Joe likes sterling silver, preferring to award silver trophies at the shows that he puts on. For years he and Mable attended dozens of auctions annually to look for silver pieces that he could buy and use as Camellia

Dapper and Deadly—Joe is ready to compete at the Charlotte Camellia show in February. (photo by Shepherd)

show trophies, sometimes investing $500.00 for his club while obtaining silver pieces appraised at over $1500.00.

By 1963 Joe was so dominant at the Camellia shows that he tired of winning, and he decided to drop out of competition. For seventeen years, from 1963 until 1980, Joe showed Camellias only as an exhibitor. He continued to grow his favorite plants, and operated his commercial nursery from 1966 until he sold it to Karl Lee in 1970. The Lee & Sons Nursery is now thriving, one of the best in North Carolina.

Joe Austin is back in the driver's seat in Camellia competitions throughout the southeast. He and Mabel attend about a dozen shows a year, and rarely is the head table without one of his masterpieces. In three of his first shows this year Joe won 36 trophies, thirteen in Aiken, S. C., twelve in Charleston, S. C., and eleven in Charlotte, N. C. He is the man everyone shoots for. Sylvia Watson, a fine grower from Greensboro, in accepting an award at this year's A.C.S. meeting in Fayetteville, told the crowd in attendance that her goal when she started growing Camellias was to be able to compete with Joe Austin. She set her sights on a lofty perch.

Joe is free with his information and seems to tell all when asked by beginners how he grows such fine blooms. It just seems that his monstrous 8" x 4" flowers have been given a little extra something. They frequently seem larger, have more variegation, have better formation, and consistently go for the silver like a magnet. I asked Joe how he did it, and he told me enough tricks to fill a book.

First, pick winning varieties. If your plants don't have the genetics to win you just cannot compete. Joe recom-

mends *'Jean Purcel,'* saying "its the best bloom I've ever seen. It comes in 8 or 9 formations." Joe wins several shows with it every year. Other pinks that he is particularly fond of are *'Tomorrow's Dawn Bessie'*, *'Tomorrow's Dawn'*, and *'Elegans Splendor'*. His favorite reds are *'Dr. Clifford Parks'* and *'Harold Paige'*. In white he likes *'Silver Cloud'*, *'Ruffian'*, and *'Elegans Champagne'*. Joe likes all of the Tomorrows and all of the Elegans family. He won this year with a *'Tomorrow's Lisa'* that he grafted only last February. He won at Aiken this year with a *'Tony's Joy'* that he described as the "best Camellia that I have ever cut. It measured 8 inches across and 5 inches deep. Just perfect."

Joe grows all of his blooms inside greenhouses. He is to *'protected'* blooms what Parker Connor is to *'outdoor'* Camellias. His greenhouses are not spectacular to look at, built with wooden frames and polyethylene or corrugated fiberglass coverings. The Camellias inside are all planted on raised beds, explaining the rarity of diseases. The plants are 2-3 feet apart in every nook and cranny of the three structures. The plants are pruned in what a landscaper might consider a nightmarish shape. Rather than shearing the tops of the plants to produce short bushy attractive landscape plants, Joe prunes internally, removing weaker shoots and allowing a viewer to look right through the leggy plants. It is not how the plant looks that concerns Joe, it is what it will do.

Joe disbuds heavily so that each branch retains only one bloom bud. All of the photosynthetic efforts of each shoot will go toward one large show flower. When Joe prunes the plants he always paints the wounds with *'Tree Kote,'* and he mixes Benlate into the sticky black material as extra

Stacks of bloom boxes mean that Joe and Mabel have arrived, usually with over 100 entries. (photo by Shepherd)

Joe and Mabel Austin in Charlotte. (photo by Shepherd)

insurance against the entry of disease. Joe tests the soil in the raised beds annually, adding a handful of lime to each plant about April 1. Each plant is soaked with Ridomil on the same date. "That does more good than anything," he asserts.

Joe hestitates when asked about his fertilization program. "I try something different every year," he says with a wry smile. One thing he is sure of, though, is that too much fertilizer means dead plants. He recommends any good azalea/camellia fertilizer.

Joe's grafting technique employs several idiosyncrasies that are worthy of mention. Any plant that fails to produce blooms that are up to Joe's expectations is subject to becoming rootstock for grafting. He likes to leave one small branch at the base of the plant to make sugar that will sustain the root system until the scion takes over that function. When the scion *'takes'* he removes the supportive sucker. Scions are little more than 1-2 inches of stem, a bud, and a half of a leaf. He usually inserts two scions on stems that are as big as your thumb.

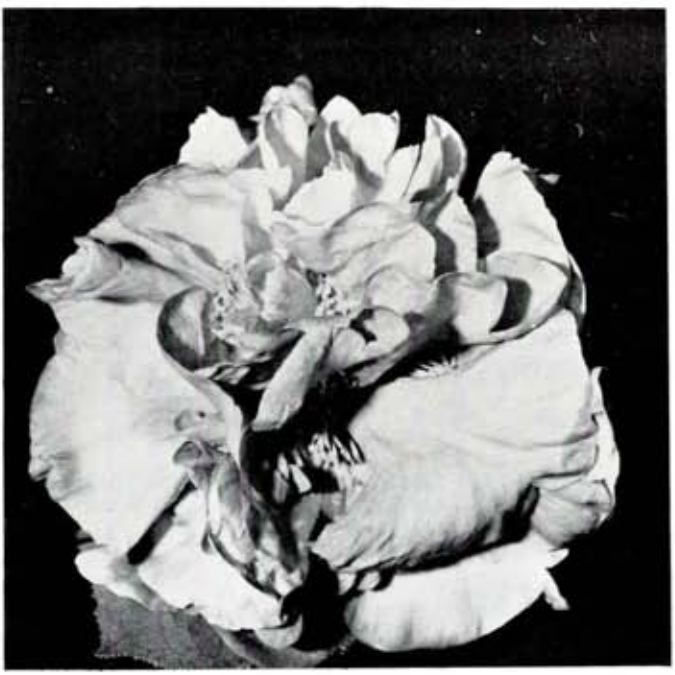
Joe seals his grafts with a unique mixture. He takes red clay and mixes it with a Benlate solution, mixed to the normal 1 tablespoon to a gallon formulation, until the clay becomes workable. A lump of this clay is used to seal the graft union. The Benlate discourages disease, and the moist clay delays dessication until the union meshes. It then hardens and cracks, falling harmlessly away. Joe grafts from January until March, getting better results during the last half of this period. The graft is covered with a clean bottomless milk or soft drink container made of plastic that has a screw-off cap. This is then covered with a brown paper bag which has had a tiny window, about the size of a quarter,

torn out of the north-facing corner. When there is evidence of growth from the bud on the grafted scion, Joe removes the bag and the cap on the bottle. When the shoot begins to emerge and the plant becomes independent the protective bottle comes off.

There are numerous other tricks that Joe uses. He scatters tea grounds from spent tea bags on the ground over the roots of his plants. This, he contends, supplies tannic acid which reduces bull nosing of blooms. Joe begins gibbing in mid-August. Most of his pruning comes around Labor Day.

It is difficult to detect significant differences between Joe's growing procedures and those of our other outstanding growers. But there does seem to be some intangible difference. Perhaps it is Joe's love for the Camellia, or the attention he gives to his plants. He frequently works all day, from 8:00 a. m. until dark, attending to his crop. He endures the long hours of gibbing and disbudding. He usually cuts more than 100 blooms for each show, beginning at mid-week for a Saturday show, with Mabel's able assistance. He sometimes arrives at shows with styrofoam bloom boxes protruding through the open tailgate of his station wagon, tied in with nylon cords.

What is it that makes Joe Austin's blooms so special? Well, we all know his secrets now. So that means that we should all be able to duplicate his magic, right? Occasionally a Fred Hahn, Sylvia Watson, John Newsome, Ann McKinnon, or another of our best will do it. But, the next time you attend a Camellia show go to the head table and look for the name Joe Austin on the winner's cards. When you find his blooms just make a quick comparison. I think you will agree with me that Joe Austin is the man to beat. Joe is the master.



This Joe Austin Seedling turned heads in 1988. As we might expect from Joe, it is very large and very colorful. (photo by Darden)

Editor's Column

By Jim Darden

What a wonderful show season we have just concluded. Mary Nell and I have been more active than ever this winter showing our Camellias, and we have been rewarded by meeting lots of new people, learning more about Camellias, going to the head table for the first time, and getting a tremendous amount of enjoyment from Camellias.

Camellias seem to have come back from the devastating freeze of 1985 very nicely in our area. Interest is soaring and our Fayetteville Camellia Club has a host of new members that we are really proud of. Our new members got right into the Fayetteville show (nearly 1400 blooms) and really did a great job.

Membership in our Atlantic Coast Camellia Society unfortunately is not doing quite as well. We need to make a serious effort, all of us, to preserve the future of ACCS by bringing new members into our group. Our performance this past year has not been good. A recent updating of the mailing list revealed that 72 memberships have gone inactive in the year that I have been editor. Since many of these were joint memberships that means that we have over 100 fewer readers and supporters.

Our active memberships are now well under 300, in fact they are down to 252. Considering the joint memberships, that means that we now have 366 readers, down from nearly 500 a year ago. These numbers are really troubling, so please give us your support. I think all of us have friends or aquaintances who are interested in Camellias, but have never been invited to join our group. Please help us in actively seeking new members, and tell past members that we need their continued support.

The obvious result in this issue of lower membership (and fewer dues being paid) is the absence of a color cover. I feel strongly that our group deserves a first-rate publication which, like nearly all other major horticultural societies in the country, proudly pictures its plant of choice on the cover of its journal. Even though we are now printing color journals for about the same price that we previously paid for black and white, your Board of Directors had to make a decision based on our current revenues, and they did not allow expenditures for color on our cover, at least not every issue.

The only thing that will turn this around is direct involvement by YOU. Each member must actively support ACCS by inviting interested people to join us. No one wants higher annual dues. We simply must have more people in our society to replace the ones we are losing. PLEASE HELP!!!

I want to say THANK YOU to four of our finest Camellia people who were very kind to me recently. In early March I took a dozen of my students to Charleston on our annual spring tour of the gardens and nurseries in that area. Parker and Amy Connors, and Bill and Donna Shepherd, invited our group to visit their homes and see their Camellias. What an extraordinary experience. The students could not have seen finer Camellia gardens anywhere in the world, could not have met finer Camellia people, and could not have come back home more interested in Camellias. They are still talking about the trip. My sincere thanks to those four people.

Best wishes to everyone for a very nice summer. Keep your Camellias cool, and we will see you in the fall.

CAMELLIA AND CRAPE MYRTLE PEST CONTROL CALENDAR

By Dr. Jim Baker
Extension Entomologist
N. C. State University

"When to Treat for Insects and Mites"

CAMELLIA PESTS														
Pests	*	**	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
aphids	III	1					S							
camellia scale	II	2				S								
peony scale	II	3						S						
southern red mite	II	1 or 2		G	or	S						S		
tea scale	I	3			D	or	S					S		

CRAPE MYRTLE PESTS														
Pests	*	**	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
crapemyrtle aphid	I	2							S					

*Degree of importance of pest:
I = Important pest, high probability of occurrence
II = Treat as needed
III = Occasional pest, treat when detected

**Number of applications needed for effective control. It is usually best to wait 10 to 14 days between applications in cool weather and 7 to 10 days between applications in warm weather.

D = Drench with dimethoate in spring
G = Granular systemic application
S = Spray application

In the following chart, those pesticides marked with an 'X' are labeled for use on camellias and crape myrtles and will control the pest indicated. Be sure to follow the precautions for safe use found on the label of whatever pesticide is used.

	Camellia Pests						
PESTICIDES	aphids	camellia scale	peony scale	southern red mite	tea scale		crapemyrtle aphid
acephate (Orthene)	X						X
azinphosmethyl (Guthion)	X			X			X
Bacillus thuringiensis (various trade names)							
bendiocarb (Dycarb, Ficam, Turcam)		X			X		
carbaryl (Sevin)		X	X				
carbophenothion (Trithion)		X	X				
chlorpyrifos (Dursban)	X			X			X
cyhexatin (Plictran)				X			
demeton (Systox)	X	X		X	X		X
diazinon (Spectracide)	X	X	X				X
dimethoate (Cygon, DeFend, Rebelate)		X		X	X		
disulfoton (Di-Syston)	X	X		X			X
endosulfan (Thiodan)	X						X
ethion				X			
fenthion (Baytex)							
fenbutatin-oxide (Vendex)				X			
fenvalerate (Pydrin)							
fluvalinate (Mavrik)	X	X	X	X			
lindane	X						X
malathion	X	X	X				X
methomyl (Lannate, Nudrin)							
methoxychlor (Marlate)							
monocrotophos (Azodrin)	X						X
naled (Dibrom)	X						X
oxamyl (Vydate, Oxamyl 10G)		X	X	X			X
oxydemetonmethyl (Metasystox-R)	X			X			
oxythioquinox (Morestan)				X			
phosphamidon	X						X
soap (Insecticidal)	X						X
summer oil		X	X	X	X		
tetradifon (Tedion)				X			
trichlorfon (Dylox, Proxol)							

THE USE OF TRADE NAMES IN THIS NOTE DOES NOT CONSTITUTE ENDORSEMENT OF SOME PRODUCTS TO THE EXCLUSION OF OTHER PROPERLY LABELED PRODUCTS.

AN INVITATION TO JOIN

We hope that you will join the Atlantic Coast Camellia Society. Let's enjoy Camellias together.

The Atlantic Coast Camellia Society was organized September 13, 1980 at Myrtle Beach, South Carolina. The purpose of our organization is to extend the appreciation of Camellias and to promote the science of Camellia culture. Through our Camellia shows and programs, and by exchanging knowledge and ideas with the Camellia specialists within our membership, we feel that everyone in the ACCS benefits from being a member of this organization. Whether you are a beginning Camellia fancier or a veteran Camellia competitor, the ACCS is dedicated to providing information, shows, and social events that you will find helpful, entertaining, and enjoyable.

Annual dues for membership in the ACCS are $10.00 for singles or couples. The membership year runs from September to September. A membership entitles you to three issues of Atlantic Coast Camellias, the journal of the Atlantic Coast Camellia Society. These are issued January 1 (spring), May 1 (summer), and September 1 (fall). In addition, your membership provides an invitation to our annual meeting in October in Myrtle Beach, S. C. This event has been especially successful in recent years, with over 100 participants in 1986, and with such keynote speakers as Julius Nuccio and Sergio Bracchi.

A variety of Camellia topics are addressed in articles published in Atlantic Coast Camellias. In addition to regular features concerning Camellia culture in the landscape and in the greenhouse, articles cover such topics as Camellia planting, grafting, rooting, judging, pruning, gibbing, disease control, insect control, new and old varieties, show preparations and results, liming, fertilization, spraying, mulching, disbudding, and nursery production. Numerous photographs and illustrations are provided.

We invite you to join, and welcome you as a member. Please make your check payable to the Atlantic Coast Camellia Society. Fill out the convenient application blank below, and mail it to:

Atlantic Coast Camellia Society
1325 East Barden Road
Charlotte, N. C. 28226

NAME _____

STREET ADDRESS _____

CITY _____ STATE _____ ZIP _____

PHONE ( ) _____

☐ *Check if you want a membership card.*

John Newsome brought these fine blooms from Atlanta, Georgia, to the Charlotte Camellia Show in February of this year. John is one of our excellent growers, and won the trophy for Best Japonica in the show with the Ville de Nantes in the lower left corner of this container. Congratulations to John for a fine year. (photo by Shepherd)

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