Atlantic Coast Camellias

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'Dr. Dan Nathan Supreme'

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ATLANTIC COAST CAMELLIA SOCIETY

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COVER NOTE

Camellia reticulata hybrid 'Dr. Dan Nathan Supreme' is described in the 1993 Camellia Nomenclature as "Pink with Fluorescent Sheen. Very large semi-double, vigorous, open, upright growth, M-L." 'Trewithin Pink', Tali Queen', x reticulata hybrid 'Lilette Witman' (U. S. 1991 - M. Jernigan, Warner Robbins, GA).

IN THIS ISSUE

PRESIDENT'S MESSAGE

A little note of sadness was evident as the Camellia shows ended for the season. It's always a joy to get together each week with our friends. The friendly competition keeps us all interested.

Our camellias had gone through considerable trauma having undergone two moves within a year. They did not perform as well as we would have liked but we had some respectable blooms. They have now been pruned, are putting on new growth and are looking really healthy. Hopefully next year we will have some **great** blooms.

This was an excellent season for the shows. Weather was mild and all of the shows had large numbers of blooms. Bloom quality was excellent. Especially the Retics, whose numbers now exhibited at shows almost equal the number of Japonicas. Due to the increase in the number of Retics, show committees might want to consider more awards for this category. Some already have.

From my observation, the most consistent winner in our circuit seemed to be Hall's Pride and Hall's Pride Variegated. This is a really super Retic.

Another observation this year is the absence of individual nomenclature cards from several shows. A lot of favorable comment was heard on this. A letter designation was used. It seemed to make placement go more smoothly. Of course, a few blooms were misplaced but very few from what I saw.

As I write this we have been through the "winter storm of the century" with little or no damage, and spring is awaiting. Trees are beginning to put on their new leaves, bulbs are blooming everywhere, the mallard ducks are returning to the lake and we are looking forward to the new year with a renewed spirit and sense of purpose.

I hope all of you are keeping in mind our convention at Myrtle Beach in October. You will be receiving more information on the scheduled events later. If you have never joined us, why not let this be the year you do so. I can assure you it will be a fun filled weekend.

We look forward to seeing all of you again soon.

Mildred S. Robertson

ACCS Pool Party — Kathry Allen, Louise Gerbing, Lou Powers

EDITOR'S NOTE

The world changes with the seasons and we are now in the renewal stage of Spring. March was truly a lion this year but has now tamed after the mid-March storm of the century. Records were set in every weather category, particularly relating to low temperatures, snow and wind. This freak of nature has compressed the spring flowers into a mass of bloom that is going to beautify Easter in middle Georgia as is rarely seen. So we have even reaped a reward for the damage done. And further, we've had wood ducks and geese on the pond, the early hummingbirds and even lazy king snakes sunning on the lane. And Elizabeth now gives the snakes right of passage since she found out we would be up to our hips in rattlesnakes and water moccasins if it were not for king snakes. Phillip is burning off the woods around the pond and house. All we need now is May pole dance practice. I'll wager that each of you have your special spring memories.

The feeling of regret that comes with the end of the camellia show season is tempered by the renewal heralded by Spring. Going to 16 shows during the camellia blooming season makes a respite welcome and allows for plant care that can make or break the next show season. Thoughts of the Carolina picnics during the summer also help dispel regret over the ending of the show circuit as well as the promise of another annual ACCS Convention in Myrtle Beach, SC, Holiday Inn on the second weekend of October 8 and 9, 1993. This change to the second weekend will allow a lower rate of $32.00 which includes nights before and after the meeting. For you who are homesick for a camellia show, you can come to the show at the Georgia National Fairgrounds on Saturday and Sunday, October 16 and 17, 1993. Note that flowers will be entered on Saturday morning rather than Friday and the Beaufort or Frogmore stew party will be held at Mary and Wilbur Rumph's home on Friday evening, October 15th.

Pat Gruetart, editor of the Southern California Review, has a running discussion going on variegation of camellias by Charlie Bush of Jackson, MS, from an exhibitor's point of view answered by Dr. Bill Ackerman from a scientific point of view. Nothing else has worked so let's have your views on variegation of camellias. All views will be respected and I hope to hear at least from Hulyn and Marion.

The Gulf Coast Camellia Society has started publishing a 24 page journal titled Gulf Coast Camellian four times a year. Jean Comber has handled the Gulf Coast Bulletin for years and has been a magnificent and patient editor. She now wishes to devote her time only to the International Camellia Journal and will be succeeded by Art Landry for the upcoming Summer 1993 edition.

Art is very capable, a vice president of ACS for the Gulf Coast States and Treasurer of the International Camellia Society. He would further want me to inform you that the Camellia Register to have been mailed in February proved too flawed in printing and binding and is currently being reprinted. Tom Sarige has done an excellent job as editor and the two-volume register is still available for the pre-publication price of $80 from Art, Baton Rouge, LA.

The end of the basketball season and the beginning of baseball reminds me that humans are naturally competitors. We use our skill of growing and showing camellias as a means of a friendly competition and an enjoyable social event. This and the involved physical activity hang the carrot in front of the rabbit and results in camellia nuts enjoying a longer and healthier life.

At the last ACS Annual Convention in Walnut Creek, CA., an imposing panel of speakers shared their observations and knowledge. Art Gonos, husband of Chris, gave some witty advice after he announced that Greeks could not talk without using their hands. He told of ancient Greek warriors who used their wife to carry a bundle of spears on her back. Most husbands now let their wives carry the blooms from the car to the show but don't allow them to handle and mount the camellias. Art feels that women are much more gifted artistically and should be allowed to mount the blooms since they are better qualified. Jeff Jeffares from Meridian, MS, has always had the same philosophy and Liz has petted many winning blooms.

Elizabeth and I look forward to seeing many of you this summer and at our Convention the second weekend in October.

Dave Scheibert

A True Camellia Friend and Physician

Dr. Dan Nathan is a Bulldog booster who follows the team on football weekends, but his most intense love is Muriel. They met at the University of Georgia, married in 1942 and Dan left to serve in the Air Force. He finally retired from the Air Force Active Reserve as a Colonel after 34 years of service. Dan spent his entire medical practice as a very capable and popular family practitioner and surgeon. On medical retirement Peach County Hospital hosted a wonderful banquet in 1988 to honor this wonderful physician and wife who were so important to Fort Valley, GA.

Dan pinpoints 1952 as the beginning of his interest in camellias. At that time they had moved into a new home with a double lot and Dan wished to landscape the lot with camellias and other ornamentals. He went to Dave Strother's garden on Massee Lane and sought the help of Mr. Wortham, supervisor of the farm, to teach him how to graft camellias. The lessons were gladly given using tea olives since Dan said that Dave Strother was reluctant to give camellias scions in those days. However Dan soon received four scions and all were successfully cleft grafted by Dan, C. *j.'s 'Holly Mac, Clower's White, Lady Clare and Glen 40'*. The first three still reside in Dan's garden. When asked as to the number of his camellia plants, Dan smiles and invites you to start counting. He laughs as he remembers his patients, Dave Strother and Maxwell Murray, coming into his office by the back and leaving a new camellia scion. Those two thought nothing of driving hundreds of miles to view and obtain a new hot camellia variety.

Dan's enthusiasm for the camellia hobby resulted before 1985 in the largest camellia collection in middle Georgia, second only to Massee Lane Gardens. While increasing his camellia collection Dan attended camellia shows sponsored by Women's Garden Clubs in Marshallville, Fort Valley and Macon. It was common to have up to 7,000 to 8,000 spectators with buses and cars from miles around. The Middle Georgia Camellia Society was reorganized by Wally Freshwater, Dr. Earl Beatty, Jim Liipfert, Terrell Weaver, Dan and Drs. Frank Houser and Walter Homeyer and others in 1971, and for 21 years the Middle Georgia Camellia Society has had their shows in the barn at Massee Lane. In the early '70s patrolmen were still necessary to handle traffic. Dan attributes the large crowds at early shows to good publicity by radio and newspapers.

After the above chat Dan invited me on a tour of his garden. This was promptly accepted since it is always a pleasant and informative experience. The warm spring day was brightened by the slanting rays of a setting sun that highlighted the late camellia blooms as well as flowering yoshino cherries and dogwood. There was no evidence of the wind storm and 18°F

weather just two weeks before. In addition to lovely camellia blooms and plants, another earmark of Dan's lovely garden is the thick layer of tree leaves that acts as a mulch and organic fertilizer. There were even several plants resulting from scions furnished by the editor in the past.

Dan has taught many how to graft and propagate camellias. He freely answers questions and gives camellia scions. As a parting question Dan was asked his opinion about developments he has witnessed that increase and promote interest in camellias for landscaping and as a hobby. He feels that development of more cold hardy plants is an important factor as well as the use of slow release fertilizers. Progress in disease control is also important. He felt that the use of giberellic acid was more important to the camellia show exhibitor than the average camellia hobbyist. Dan emphasized as a common thread throughout our conversation that he would like to see camellias in every garden and home landscape.

The meticulous care of patients and love of camellias are matched by Dan's service to Middle Georgia and American Camellia Society. He has held all positions in the local club and been perrenial chairman of judges. The American Camellia Society has been the beneficiary of six years of his service as a director-at-large of the Atlantic Coast States and fund-raising. He received the Certificate of Commendation of the American Camellia Society in 1985. The ACS Yearbook was dedicated to him in 1991 as well as the Middle Georgia Camellia Show at the barn. His present ACS positions include a director of the Development Fund, member of the joint ACS Long Range Planning Committee and chairman of the Environmental Garden Committee. Dan has transfused many of us with camellia knowledge, aided us with grafting and other skills, been generous with time and above all, knows the art of growing and showing camellias. Thank you, Dan.

East meets west, note scion (branch) in Sergio's hand.

2 Georgians at the Moose Club?

AND NOW FOR SOMETHING COMPLETELY DIFFERENT

Herbert Bartle
S.B. Carter

As with the rest of our horticultural pursuits, our interest in camellias has gone from the complex and overbred to the simple, i.e., to the species. There are nurseries that specialize only in species orchids (with >30,000 species in the family, there is quite a choice). But among cacti and succulents there are few hybrids (largely because this is a group of adaptations to environment, not a taxonomic family [except for the cactaceae]). And unlike camellias and orchids, the beauty is in the plant form, flowers being largely secondary.

Pursuit of the species in the Theaceae is not terribly difficult but it is a challenge, especially for us here in southern Kentucky (36° 40′ N latitude). Many members of the family are quite hardy as far as our ultimate winter temperatures are concerned. The problem we most often face with the outdoor trees and shrubs has to do with the Asian origin of the majority. The first few 70°F days of February and March bring the Asian plants out of dormancy, being adapted no doubt to more clement and predictable weather. For example, Magnolia x soulangeana regularly freezes in its full glory. Another case in point: *Callicarpa americana* and *Callicarpa japonica* are both planted in open locations. *C. americana* has consistently bloomed and fruited, but *C. japonica* has gotten frosted 2 of the last 3 years despite mild winters. That freeze in early April is deadly.

All of this leads to the fact that we must grow all but the hardiest of camellias in a greenhouse. So all species are game for us. For amateurs, a perusal of Nuccio's catalog will reveal the largest choice of camellia species, while Kai Mei Parks of Camellia Forest Nursery offers a small selection of species, including some recent introductions from China (her catalog is a garden of delights for camelliaphiles, each issue holding a few fine surprises, old and new).

Appreciating fragrance, we early acquired *Camellia lutchuensis*. It is a fine textured shrub with thin flexible branches and small dark leaves. Buds begin opening for us in January and the bush is soon covered with small white flowers. Each bloom is roughly quarter sized and usually assymetrical, not unlike some of the smallest miniatures one sees in shows. The fragrance fills the greenhouse during its 2-3 month season with a light, dry sweetness. It will also set seed readily, and is a parent of C.x 'Scented Gem' and many others.

C. granthamiana seemed unduly neglected judging by its description. We have not been disappointed. The 8-petalled flowers always open for us in early November. The blooms are creamy white and creped, 5-6 inches in diameter with a 2 inch boss of golden orange stamens. The buds are unusual with dry brown scales that are very hairy. The leaves are very dark green and heavily ribbed. From Hong Kong, *C. granthamiana* will form a small tree.

Having waited for the price to go down as long as we could, we finally purchased a *C. chrysantha* (recently corrected to *C. nitidissima*, as published in the 1992 ACS Yearbook). This plant has the most unusual growing habit in this group. It demands lower light levels than others, showing its displeasure by sunburning its leaves. It has now (early February)

started its growth, and will put on another flush of growth in late summer. A spreading shrub, its tenderness gets it in the greenhouse early. The large very dark leaves are nearly 'bubbled' between the veins, and are bronzy-green when emerging. The 1-2 inch blooms are axillary and beautiful. The petals are clear rich yellow, slightly cupped at the tips and centered by many stamens of an oranger shade. *C. nitidissima* blooms late for us, usually early March, and is reportedly susceptible to dieback. We have experienced no problems to date.

C. polyodonta compares favorably with other small to medium single, somewhat tubular blooms. Its color is a soft salmon pink with darker veins and with a straight column of stamens. Bloom is in January, and it will gib to more than 3 inches. Flowers fall whole. Exhibiting dark, thinner leaves than C. japonica, we keep it mostly out of direct sun. It grows slowly for us, staying at quite a manageable size.

The *C. maliflora* that Nuccio's sent was a well branched, fine-textured shrub. The specific epithet translates as 'apple flowered', but is sub-named 'Betty McCaskill' in the catalog. This plant is **late**, natural bloom occuring after our show at the end of February. It will gib, however, as attested by a bloom open now. These blooms are truly apple blossom pink and are many petalled formal doubles. They last a very long time on the bush, but are at their most beautiful earlier in their lives, as they do eventually expose disorganized stamens. The blooms are up to 3 inches in diameter.

Mrs. Parks' catalog this year offered us *C. edithae* and *C. euryoides*. We elected to try *C. edithae* for its 2-3 inch deep rose pink formal double flowers. This undoubtedly cultivated form of the species is thoroughly discussed in the 1991 ACS Yearbook (pp 155-161). *C. euryoides* is pictured in the 1992 ACS Yearbook, opposite page 41. The rose double form of *C. grijsii* is also discussed in the article beginning on page 41.

The hybridizing potential of these and many other Camellia species is great and exciting. The prospect of growing and introducing friends to something beautiful and uncommon is also enticing. Adding species to your collection is an act of conservation and education, contributing ultimately to the future of the camellia hobby and to the truly exotic show blooms of the future.

W. H. Rish doesn't stand a chance of getting a word in with Hulyn Smith and Jim Pinkerton

THE COLUMBIA CAMELLIA SHOW

Author - Joe Austin

The Columbia, SC show hit the peak week for camellias. They had fifteen or sixteen hundred blooms. They had the most retic hybrids I have ever seen in one show. Many retic hybrids never shown before in our section. The party at Dr. and Mrs. Stands beautiful home was outstanding. The two are an asset to a camellia club, and what workers! Their club president, Emily Wheeler will be hard to replace. She has done a wonderful job at Columbia.

I have attended Camellia shows since 1952. This one reminded me of the ones in the 50's and early 60's. Their trophies were very outstanding, something I can't say about some of the shows that are giving cracker jack prizes.

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WATER STRESS

*American Nurseryman

Understanding the basic biology of water stress in plants can help you develop practical, effective water management methods.

By Dr. Barbara Smit*

Everyone involved with growing and maintaining plants, including growers, salespeople, landscape maintenance workers and homeowners, knows that plants must have water.

In many areas, seasonal droughts occur regularly, and the resulting water shortages make it particularly difficult to give plants the water they need to grow and survive. But water availability can be a problem even when there is adequate precipitation. For example, various conditions in the root zone — cold soil, the presence of root pathogens, soil compaction, restricted soil volume and even flooding — can keep the roots from sending adequate water to the shoots.

Those who care for plants can make more informed water-management decisions if they understand why water is so important to plants, how plants use it and what conditions lead to plant water deficits.

Why is water so important for plant growth and survival? First, water is a major

constituent of plants, accounting for 80 to 90 percent of the fresh weight of herbaceous plants and 50 percent of many woody plants. Water has a unique chemical nature, and most components of plant cells need it to maintain their molecular structure.

Water is also important as a solvent. Mineral nutrients, sugars and many other substances are transported around in the plant dissolved in water. Water is a reactant in many of a plant's chemical processes, including photosynthesis, the basic process plants use to make sugar.

In addition, water provides turgor pressure. This force maintains the structure of many plant parts and drives plant growth. When tissues lack sufficient water for adequate turgor pressure, growth stops, and the tissues wilt.

To better understand this concept, envision each plant cell as a balloon. The air inside pushes on the balloon's walls, causing it to expand. Once the balloon is fully expanded, it is air that gives it its shape. Similarly, water pushes against the walls of plant cells, driving their expansion and providing structure.

Clearly, water plays many key roles in a plant's life. Therefore, when water is not readily available, a plant cannot function normally and will eventually die. Even minor water deficits can have a major impact on plant growth.

To live, plants obviously need a water transportation system. There is a continuous water column from the soil into the roots and through the plant to the leaves, where it is lost to the atmosphere through small surface pores. Each pore, or stomate, is surrounded by cells that can shrink or swell, opening and closing the pore.

When the stomates are open, the leaf can take in carbon dioxide to be fixed into sugar by photosynthesis. Open stomates also release water vapor to the atmosphere, a process known as transpiration.

Transpiration creates the tension that drives the roots' water uptake. When there is insufficient water in the leaves, the stomates close, reducing water loss and, concurrently, sugar production. Many factors influence the rate of water loss; the dryness of the air is the most important.

Given the nature of this process, it is not surprising that plants can suffer water deficits for a variety of reasons, including the following:

- Lack of water from the soil (due to insufficient moisture or inadequate rooting volume).
- Excessive transpiration compared with water intake.
- Inhibition of roots' ability to absorb water (due to unfavorable soil conditions).

The most obvious cause of plant water deficits is a lack of adequate water in the soil, due to inadequate precipitation (or drought). Competition among plants can also diminish the amount of water available to a given plant by rapidly depleting the water supply.

Rain or irrigation may alleviate these problems, but the plant's ability to use such water depends on how much of it actually becomes available to the roots.

Soils vary in their water-holding capacity. For instance, a clay soil can hold more water against gravitational pull than a sandy soil. But water does not readily infiltrate heavy or compacted soil; consequently, water is lost due to run-off and evaporation.

The water that does get into compacted soil may not help much if the plant has inadequate "rooting volume" — the area from which the roots can draw water. Compaction restricts root growth. Roots cannot penetrate soil pores smaller than their own diameter. If a root is unable to push its way into a pore, growth of

the root tip stops. Often, this stimulates the growth of smaller lateral roots but restricts the overall development of the root system.

Anything that lessens a plant's rooting volume increases its susceptibility to drought. Planting in compacted soil reduces rooting volume. So do planting in containers and in sites with impermeable soil layers or impenetrable planting holes.

Though soil is the plant's primary source of water, the driving force behind water uptake is transpiration. Water deficits occur not only when there is insufficient soil water, but also when the leaves lose more water (through transpiration) than the plant can absorb and transport to them.

Several factors influence transpirational demand. There is a direct relationship between the amount of existing leaf area and the rate at which the plant can lose water. If the absorbing root area and the transpiring leaf area are out of balance, a water deficit can develop.

For instance, plants often lose roots during transplanting. The smaller quantity of roots may not be able to provide adequate water for the existing shoots.

A shift in environmental conditions can also cause an absorption-transpiration imbalance. The relationship between root growth and shoot growth is, in part, a direct response to water availability.

A plant grown in a container under regular irrigation may be able to maintain a satisfactory balance, even though its rooting volume is restricted. If that plant is moved to a non-irrigated site, the number of roots and the overall rooting volume may be insufficient to support the shoots.

Air temperature can also determine a plant's rate of water loss. If relative humidity is held constant, the amount of water that evaporates from the leaf surface increases dramatically as the temperature rises. On hot days, the root system may not be able to absorb water rapidly enough to equal the rate of water loss, even if there is adequate water available in the soil.

Finally, root zone conditions affect a plant's water status by determining how quickly roots can take up water.

When water travels to a plant's root, it must cross living membrane barriers before it is released into the transport tissues in the center of the root. These membranes allow roots to take up nutrients and other substances in the soil in appropriate quantities. (If the membranes were absent, roots would simply act like straws.)

Because water must pass through these membranes to reach the rest of the plant, resistance to flow in this area limits water uptake. Several environmental factors, including soil temperature and oxygen availability, influence how freely water flows through the root membranes.

Low temperatures increase resistance to flow, so cold soils reduce water uptake. In spring, it is common for soils to remain much colder than the air. Thus water uptake can be more restricted than transpiration, leading to water deficits.

Soil oxygen is also crucial. An oxygen deficiency increases the resistance to water uptake.

Under normal conditions, there is a continual exchange between the gas in the soil pores and the atmosphere. The oxygen in the soil is constantly replenished. In waterlogged and flooded soils, the rate of oxygen movement into the soil is greatly diminished, leading to oxygen deficiency. Ironically enough, plants standing in water can therefore become stressed due to lack of water uptake.

Some plants have adaptations that help them avoid water deficits. In most cases, these plants do not withstand drying out any better than unadapted plants do. Rather, they avoid dehydration by effectively absorbing

adequate water or by efficiently restricting water loss.

Such plants may have very extensive root systems, designed to absorb water according to their environment. Some plants send out deep roots to extract water from low soil layers. Others have shallow roots, which can take advantage of light rains. This precipitation evaporates before penetrating deeply into the soil.

Plants can restrict water loss by having small leaf areas or thick cuticles on the leaves. Another adaptation is regulating the opening of the stomates to minimize water loss while maximizing photosynthesis.

Some plants acclimate themselves to reduced water availability. These plants "learn" to grow and survive with less water after exposure to mild water stress. This is termed tolerance to water deficits.

It is not necessary to know exactly how a plant avoids or tolerates water deficits. Simply realizing that plants vary in their sensitivity to water stress should help you select a plant to fit a specific site. Water availability (either from natural precipitation or irrigation) should be a factor in your decision. Plants that are suited to the natural environment obviously require less maintenance.

Water use should also influence plant placement; groupings should be determined, in part, by water requirements.

Reducing competition between plants makes more water available to each plant. A good example of this is preventing the growth of grass and weeds in the nursery.

When matching a plant to its site, you should also consider the desired rate of growth. Small water deficits can greatly reduce growth. For a grower, this means less productivity. On the other hand, in landscapes, maximum growth is not always desirable. Mild water stress actually enhances flowering and fruiting in some plants. (However, severe water stress is nearly always detrimental.)

Remember, too, that water stress often damages young seedlings more than well-established plants. A young seedling does not have an extensive root system or the carbohydrate reserves that would enable it to withstand shortages. Likewise, a plant already stressed by insects, diseases or exposure to other environmental problems will be less able to survive a water deficit than a more vigorous plant.

Finally, keep in mind that a plant can experience water stress when conditions in the root zone inhibit water uptake. Provide an adequate volume of well-drained soil whenever possible. If the rooting volume is limited, plants will require frequent applications of water. If you cannot control the site's drainage characteristics, select plants that tolerate flooding or waterlogging. Plants native to bottomland often are fairly tolerant.

And be aware of soil temperature. Remove mulches from soils in the spring to encourage warming and prevent water stress caused by cold soils.

Understanding the basics of plants' water use should help you make wise management decisions, regardless of your occupation or locale.

Dr. Barbara Smit is associate professor of horticultural physiology at the University of Washington, Seattle.

CLIMATE AND THE FLOWERING OF THE CAMELLIA

James Bonner*

INTRODUCTION

The camellia growing in the garden or lath house under natural conditions regularly alternates periods of flower-bud formation with periods during which these flower buds open to produce mature flowers. We will ask in this chapter: What are the precise factors of the environment which cause this alternation of flower bud formation and flower production? It is of obvious importance to know what environmental factors are of importance in camellia flowering, since by their recognition we may be able to hasten or delay flowering at will and be further able to interpret disturbances in normal flowering and correct the causes which have led to it.

GROWTH OF THE PLANT

When a camellia seed germinates and produces a seedling, the young plant does not immediately proceed to produce flower buds. The bud at the apex of the growing shoot grows vegetatively for some time, producing a series of leaves as it grows. At the base of each of these new leaves is a bud which, if it develops, will produce more leaves and grow out into a branch. Such buds are therefore also vegetative buds. The seedling camellia must produce a fairly considerable number of leaves and attain a fairly substantial size before it becomes capable of producing flower buds. We do not yet know what it is that determines that the infant plant must attain this considerable size before it becomes capable of producing flowers. We do know, however, from the work of Lammerts that the production of flowers by seedling camellias can be greatly hastened if the plants are kept under warm conditions and illuminated by artificial light at night to maintain them under conditions of long day. In these circumstances the seedling camellia grows continuously and rapidly and becomes capable of producing flowers within ten to eighteen months or so.

It is of interest to note that the growth of the camellia, the production of leaves, and the elongation of the stems is controlled by the

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From "Camellia Culture", Edited by Tourje, Published by Southern California Camellia Society, 1955.

length of day or daily exposure to light. Thus growth of most camellia varieties which have been investigated does not take place if the plants are maintained in sunlight for 8 hours a day and then transferred to darkness for the remaining 16 hours. Under these conditions of short days, and regardless of the temperature, the plant remains in the dormant or winterlike condition. On the other hand, camellias supplied with sunlight and illuminated with weak artificial light at night grow rapidly, producing long vegetative shoots and abundant leaves. This effect can often be noted with camellias grown out of doors and subjected to artificial light at night by accident, as by illumination by street lights. This effect of length of day upon the growth of the camellia should be borne in mind by those who wish to grow camellia plants in the greenhouse, since to maintain rapid growth of the plant during the winter it is necessary to supply artificial light at night. This light may be supplied by ordinary incandescent lamps and need be only of low intensity. Much evidence indicates that 100 foot candles intensity, one hundredth that of full sunlight, is quite sufficient.

The influence of day length upon the growth of the camellia appears to be mediated through the plant growth substance, gibberellic acid. This material, which is essential to plant growth and which is normally manufactured in the plant, is apparently deficient in plants grown under short days. Thus dormant camellia plants in short day conditions can be caused to grow normally, just as though they were under long day conditions, merely by the application of minute amounts of gibberellic acid to their leaves (Lockhart and Bonner, 1957).

FLOWER INITIATION

Flower initiation, the production of flower buds, consists of a disturbance in the regular succession of production of leaves and buds characteristic of the vegetative plant. When the camellia becomes ready to produce flower buds, characteristic changes occur in the buds which are produced at the base of each new leaf. These buds increase in diameter, remain short rather than elongated and, with time, produce the characteristic flower parts. The buds thus produced may remain quiescent for some time before they embark upon the further course of development, the rapid swelling and unfolding which results in the production of the visible flower. We know that two features of the environment, both climatic, determine the time of year at which flower buds are produced and the time of year at which the further development occurs. These two factors of the environment, which are of

paramount importance to the flowering of the camellia, are the night temperature and the length of day. Other environmental factors, such as the nutrition of the plant, the abundance of water supplied to it, and the light intensity during the day, all affect the vigor of the flowering of the camellia, and low light intensity in particular can serve to decrease greatly the number of flowers produced per plant. But these factors serve only to modify the response to temperature and day length, which are the all-important controlling factors in flower production.

INFLUENCE OF TEMPERATURE ON FLOWER INITIATION

The initiation of flower buds by the camellia takes place, under otherwise favorable circumstances, only in relatively high temperatures. This has been shown by experiments in which camellia plants were grown in greenhouses under conditions of controlled temperature. Thus, it was found that at a continuous temperature of 80° F. day and night, plants produce abundant buds. If the night temperature was lowered to 65° fewer buds were produced, while night temperatures of 60° almost completely suppressed bud formation. Temperatures lower than 60° completely prevented the formation of flower buds by the camellia varieties studied. That high temperature should be necessary for bud formation is in accordance with general observations on camellia culture. Thus, we know that flower buds appear in the late spring and early summer months and grow steadily through the summer, attaining in southern California, for example, a diameter of ¼ inch in August or September for the early flowering varieties, or perhaps by as late as October for the later flowering varieties.

INFLUENCE OF LENGTH OF DAY ON FLOWER-BUD PRODUCTION

When camellia plants are placed under conditions otherwise favorable for flower-bud formation, including a suitably high temperature, they produce flower buds only when maintained under conditions of long day. In long days, but not in short days, the small buds at the base of the leaf begin to grow in length and to unfold the rudimentary leaves which are present in every bud. And on a certain proportion of such shoots the new buds become flower buds. Now let us ask how long a day is needed to cause the flowering response. Plants supplied with 8 hours of natural light a day and darkened for the remaining 16 hours produce few or no flower buds. Neither is 9 hours of light per 24 hours sufficient. McElwee has shown, however, that 13½ hours of light per day causes abundant flowering. The day length optimal for

flower-bud production by the camellia has not been determined, but we may guess that it is somewhere above 12 hours and perhaps as high as 16.

That both high night temperatures and long day lengths are necessary to assure rapid and abundant flower-bud formation by the camellia is again in accord with general experience, since we know flower-bud initiation in the camellia occurs normally during the summer when the days are long as well as warm.

EFFECT OF TEMPERATURE ON FLOWER OPENING

When camellia plants are maintained under conditions of long day and high temperature, such as 80° F. day and night, flower buds are formed in abundance. These buds do not, however, develop into normal flowers. On the contrary, they ultimately fall off, abscise, in general long before opening. When plants bearing flower buds are moved to lower temperature conditions, the buds open and produce flowers, the length of time required for flower production depending on the temperature. These relationships again have been established by growing plants in a greenhouse under conditions of controlled temperature. Plants were first grown under conditions of long days and 80° F. day and night for the production of flower buds. When the buds had grown to a diameter of ¼ inch or more, some of the plants were removed to lower temperature conditions. It was found that nights of 65° permitted the production of flowers which were nearly normal, although somewhat smaller in size and paler in color than those opened at lower temperatures. Night temperatures of 50° caused the production of flowers normal in size and color. Both day temperature and night temperature are apparently of some importance in this response, since it has been found that day temperatures of 80° combined with 60° night temperatures cause the production of poor flowers, whereas a day temperature of 65° combined with a night temperature of 60° causes the production of normal flowers. The observations described above, made under controlled temperature conditions, help us to interpret the bad effects of untimely high temperatures during the fall or winter. We know of course that high temperatures at these times result in much bud drop and in the production of abnormally small and low quality flowers. These effects appear to be purely temperature ones and are attributable to high day as well as to high night temperatures.

The effects of temperature on flower opening in the camellia can be summarized as follows: At high temperatures, flower opening is hastened; at low temperatures, it is delayed. At the higher temperatures

the hastening effect is masked by a greatly increased bud drop. At the higher temperatures, too, the flowers which are produced are small and little pigmented. At lower temperatures the flowers are larger and of deeper color. In general, a temperature of 65° during the day combined with a night temperature of 60° or lower would appear to provide a satisfactory combination for camellia flowering, yielding flowers of good quality without undue delay in flower opening.

It is interesting to note that there may be some variation in the effects of temperature upon the flowering of different varieties of camellia. The characteristically early blooming varieties, such as Daikagura and Yohei Haku, form flowers of good quality at somewhat higher temperatures than do characteristically late bloomers, such as Donckelari. Nevertheless, no variety that has thus far been investigated carefully has produced normal flowers under continuous temperatures of 80°, while every variety has flowered satisfactorily with the combination of 65° by day and 60° at night.

EFFECT OF LENGTH OF DAY ON FLOWER OPENING

It has been noted above that long days are required for the production of flower buds. The reverse is true, however, with regard to flower opening. When camellia plants are given artificially lengthened days under low temperature conditions, extensive bud drop is induced. The length of time needed for the development of flower buds into flowers is also lengthened. It would seem, therefore, that the normal day-length cycle reinforces the effect of temperature in determining the yearly alternation of flower-bud formation and flower opening in the camellia. Long days and high temperatures are necessary for abundant bud formation, short days and low temperatures for the production of normal flowers and for the avoidance of bud drop.

INTERACTION OF FURTHER FACTORS IN FLOWER INITIATION

It has long been known to camellia growers that flower-bud formation is decreased under conditions of low light intensity. Less complete agreement has been reached on the importance of soil fertility and irrigation practices as factors influencing flower-bud set. The interaction of these factors has been investigated by means of so-called factorial experiments in which several levels of light intensity, several levels of soil fertility (determined by fertilizer application), and several levels of water stress (determined by frequency of irrigation) are combined in all possible ways in a multiplicity of treatments. The results of such

experiments have indicated that under all conditions of fertility and water stress, light intensity is a major factor in influencing the number of buds set. A decrease of light intensity to one-tenth of full sunlight is ordinarily attended by decreases in the number of flower buds set perhaps to one-half or less of the number set in full greenhouse light, which is about one-half of full sunlight. The effect of high light intensity on the camellia is, however, a complex one. Water loss is increased in high light intensities and in many circumstances this deleterious effect may more than counterbalance the beneficial effect of high light intensity on flower-bud set. High soil fertility, brought about by the addition of fertilizer, has been found to be important in increasing the number of buds set per plant at high light intensity levels, but unimportant at low light intensity levels where this factor is apparently the limiting one. In any case, the higher soil fertility levels do not appear to result in any decrease of bud set under any condition.

Provided, then, that favorable temperatures and long days have been provided for the camellia plant, light intensity is an important further factor in regulating the number of flower buds set per plant. Flower-bud set is also favorably influenced by high soil fertility.

CLIMATE UNDER GARDEN CONDITIONS

Although warm, long days characterize the summer in regions where camellias are grown and hence insure that bud set will take place normally, there is much more variation in the winter conditions in the different camellia-growing areas. In the Pacific Coast region, for example, the night temperatures drop below 60° for the entire period between October and the following late spring. The temperatures are therefore sufficiently low to insure the production of normal camellia flowers (with the exceptions constituted by occasional periods of unseasonably warm winter weather) and are in fact so low as to very greatly slow down the development of camellia flowers. That low temperatures do slow down flower opening may be shown by experiments conducted with the variety Pink Perfection. Plants of this variety containing fully set flower buds were maintained under different temperature conditions and the time to produce half of the total number of flowers noted. With a night temperature of 65°, 90 days were required to produce half of the total flowers. A night temperature of 60° lengthened this time to 145 days, and a night temperature of 50° lengthened it to 170 days. It is clear, then, that temperatures during the winter in the Pacific Coast camellia-growing region are sufficiently low to delay flower opening. An investigation of this matter has shown that in southern California flowering is definitely earlier in warmer areas than

in colder areas. It would appear, therefore, that temperatures in southern California during the winter are low enough so that flower opening is primarily limited by the rate at which this process takes place in low temperatures.

CONCLUSIONS

The environmental factors primarily effective in bringing about the normal cycle of flower-bud formation and flower opening would appear to be temperature and day length. High temperatures, such as obtain in summer, are essential to flower-bud formation and the effect of high temperature is reinforced by long days which are also essential to flower-bud production. Lower temperatures, such as obtain in fall and winter, are essential to normal flower opening. This temperature-controlled cycle is reinforced by the length of day during the winter also since short days, which occur in winter, promote flower opening. High temperatures and long days, although necessary for flower initiation and flower-bud production, promote the dropping of flower buds if continued for an unduly long period or if given unseasonably during the winter.

SUMMARY

Flower-bud formation in the camellia takes place abundantly when plants are maintained at temperatures of 80° or above during the day and 65° or above during the night, but is suppressed at lower temperatures.

The response of camellias to temperature is further affected by the length of day. Long days, such as those with 13.5 to 16 hours of light per 24 hours, are essential to flower-bud initiation. Flower-bud formation is delayed or absent under short day (8 to 9 hours of light per 24 hours) conditions.

Normal flower opening does not take place in camellia plants maintained at high temperatures, such as 80° day and night, in part owing to the dropping of the flower buds and in part owing to the production of small and abnormal flowers. Favorable temperatures for flower opening lie in the region 65° day and 60° or lower night temperature.

Short days, as 8 to 9 hours of light per 24 hours, favor the flower opening process, while long days, as 13.5 to 16 or more hours of light per 24 hours, induce extensive bud drop.

CAMELLIA NEWS

This Summer and Fall will be almost as busy as the camellia season. The hot bed of activity is in South Carolina as outlined in the last issue. The tea plantation on Wadmalaw Island near Charleston, SC, is having open house the first Saturday of May through October 1993 with no rain dates. The tours are conducted each half hour from 10 AM to 1:30 PM and are followed by tea tasting. I hope to be there May 1st.

Mr. Mark Miller, FL State Parks of the City of Apopka, FL, kindly wrote of their first Apopka Camellia Show on December 12, 1992 with 857 blooms. Favor this latest addition to Florida Camellia Shows the second Saturday in December: Mr. Mark Miller, 11 North Forest Ave., Apopka, FL 32703, telephone (407) 889-1744.

A Camellia Garden Tour to New Zealand is being organized by Jan Coyle August 13-August 30, 1993 with assistance from Vonnie Cave. This will include a stay at the New Zealand National Camellia Show. You may reach Ms. Coyle at 1-800-886-2153 or (415) 969-2153, Fax (415) 969-3215, 4962 El Camino Real, Suite 107 Los Angeles, CA 94022. Hylyn Smith, Valdosta, GA, is planning a New Zealand Camellia Tour in 1994.

The Gulf Coast Camellia Society will hold its annual convention at the Ramada Inn, Mobile, AL, September 17-18, 1993. This is a rejuvenated Society boasting a new 24 page bound publication quarterly. Jean Comber has turned the editorial reins over to Art Landry. President Bob Stroud and Treasurer Jim Oates are engineers of success. The Gulf Coast Camellia Auction will feature the choicest new varieties from the best growers in the U.S. and abroad.

Our own Atlantic Coast Camellia Society convention will convene at Myrtle Beach, SC at the Independent Holiday Inn October 8-9th, 1993. By being on the second weekend in October you will enjoy a rate of $32.00 which will include days before and after the meeting. Remember the Friday evening poolside buffet and plants and items for the auction. See the inside back cover for the convention notice. Y'all come and enjoy this informative relaxed meeting filled with fun, fellowship, food, auction, drawings, etc.

At the Fayetteville, NC Show Banquet, commendations were awarded by Mayor J.L. Dawkins to Ken Blanchard for originating C. 'Marquis de Lafayette' and to Dr. Habel for C. 'Miss Fayetteville'. Ken's wife, Sudie, accepted in his absence. A picture of Sudie, Bill Warren, Tubby Habel and Mayor Dawkins is nearby.

We need more authors for our next issue which will feature the Charleston American Classic Tea Plantation. Elizabeth and I anticipate with pleasure seeing you in Myrtle Beach, October 8-9, 1993.

Pool Party — Wyman & Louise Preister. Congratulations on your 50th, April 1993.

Presentation to Dr. Hable by Mayor J.L. Dawkins for originating the Miss Fayetteville Camellia.

Show Dates

1. Perry, GA, Georgia National Fairgrounds ..... October 16-17, 1993
2. Columbia, SC, State Fairgrounds ..... October 23, 1993
3. Hilton Head Island, SC, Shelter Cove Mall ..... November 7-8, 1993
4. Fort Valley, GA, Massee Lane Gardens ..... November 14-15, 1993
5. Fort Walton Beach, FL ..... November 14, 1993
6. Valdosta, GA ..... November 21-22, 1993
7. Slidell, LA ..... December 4-5, 1993
8. Pensacola, FL ..... December 11-12, 1993
9. Aiken, SC, University of SC, Aiken ..... January 8-9, 1994
10. Tampa, FL, Tampa Garden Center ..... January 8, 1994
11. Tallahassee, FL ..... January 15-16, 1994
12. Charleston, SC, Citadel Mall ..... January 22, 1994
13. Lakeland, FL, First Federal FL ..... January 29-30, 1994

Show Reports

PENSACOLA CAMELLIA CLUB - 1992 SHOW WINNERS

DIVISION I - PROTECTED

Best Large to V. Large	Sea Foam	W.M. Creighton
Best Med. to Lrg.	Ville De Nantes	Jim Newell
Best Medium	Margaret Davis	W.M. Crieghton
Best Small	Kay Berridge	Anne & Bob Gramling
Best Miniature	Pink Smoke	Geo & Jane Griffin
Best White	Lucy Stewart	Jim Newell
Best Med. - Lrg. Hybrid	Julia	Monta Horton
Best Min. to Small Hybrid	Buttons 'N Bows	J.K. Edwards
Best Reticulata	Dr. Clifford Parks	Monta Horton
Best Plate - 3 Japonicas	Something Beautiful	Jim Newell
Best Plate of 5 - Any Combination		Jim Newell
Sweepstakes		Jim Newell
R.U. Sweepstakes		W.M. Crieghton

Court of Honor: W.H. Crieghton, Jim Newell (4), John Edwards, Jim & Elaine Smelley (2), Mrs. C. Copeland, Jr. & Mrs. R.H. Franks.

DIVISION II - NON-PROTECTED

Best Bloom	Helen Bower	Bob Stroud
Best Large to Very Lrg.	Pirate's Gold	Jom & Elaine Smelley
Best Med. to Lrg.		
Best Med. Japonica	Sawada's Dream	Ed Alsip
Best Small	Kay Berridge	Anne & Bob Gramling
Best Miniature Japonica	Grace Albritton	Anne & Bob Gramling
Best White	Snowman	W Krzymowski
Best Med. - Lrg. Hybrid	Robyn McMinn	Robert Stroud
Best Min. - Small Hybrid	Buttons 'N Bows	Gordon Wesley
Best Reticulata	Black Lace	Walter Creighton
Best Plate of 3 Japonicas	White By Gate	Robert Stroud
Best Plate of 5	Any Combination	Anne & Bob Gramling
Sweepstakes		Anne & Bob Gramling
R.U. Sweepstakes		Robert Stroud

Court of Honor: Anne & Bob Gramling, Don Applegate (2), Gordon Wesley, John Geiser (3), L.R. Smith, Frank Bobe, Kay Berridge

DIVISION III - MUTATIONS & SEEDLINGS

Best Seedling	Ed Atkins
Best Mutation	Elaine & Jim Smelley

DIVISION IV - OTHER SPECIES		
Best Flower	Star Above Star	John Edwards
Runner Up	Mine no Yuki	Dr. Dave Scheibert
DIVISION V - NOVICE		
Best Lrg. - V. Lrg.	Mathoniana	Blanche Olsen
Best Medium	Kumasaki	Blanche Olsen
Best Plate of 3	Tom Herrin	Gabriel Olsen
Best Plate of 5	Alba Plena	Gabriel Olsen

TAMPA, FL CAMELLIA SHOW

JANUARY 9, 1993

C. JAPONICA (In open)		
Large	Pirate's Gold Var.	Paul & Mary Wilson
Runner-up	Lady in Red	William Skipper
Large	Reg Ragland	Warren Thompson
Runner-up	Kramer Supreme	Roy Davis
Medium	Margaret Davis	Paul & Mary Wilson
Runner-up	Marie Camp	Eileen Hart
Small	Grace Albritton	Paul & Mary Wilson
Runner-up	Margaret Williams	Allena Halliday
Small Runner-up	Purity	Warren Ropes
C. JAPONICA		
Best in Show	Helen Bower Var.	D. Scheibert
Large	Nanbankoh	D. Scheibert
Runner-up	Sue Ann Mouton	D. Scheibert
Medium	Amazing Graces	D. Scheibert
Runner-up	Commander Mulroy	D. Nathan
Small	Pink Perfection	D. Scheibert
Runner-up	Jane Griffin	D. Scheibert
Small Runner-up	Wilamina	D. Scheibert
C. RETICULATA (Includes hybrids with reticulata parentage)		
In Open	Betty Ridley, Var.	Tom Adams
Runner-up	Tongzimian	Flong
Protected	Our Kerry	D. Nathan
Runner-up	Valentine Day	D. Nathan
C. HYBRID (With other than reticulata parentage)		
In Open	Delores Edwards	Tom Adams
Protected	Son Song	D. Scheibert
Runner-up	Charlene, Var.	D. Scheibert
C. SASANQUA (And related species)		
Best Bloom	Shishi Gashiza	Warren Ropes
Best Seedling		D. Scheibert
SWEEPSTAKES		
Unprotected		Paul & Mary Wilson
Protected		Dave Scheibert
COURT OF HONOR AWARDS	Margaret Williams	A. Halliday
	Marie Camp	E. Hart
	Purity	W. Ropes
	Lady in Red	W. Skipper
	Kramer Supreme	R. Davis
	Little Babe, Var.	P & M Wilson
	Tar Baby	P & M Wilson
	Show Time	R. Crawford
	Katie, Var.	P & M Wilson
	Jane Griffin	D. Scheibert

	Wilamina	D. Scheibert
	Commander Mulroy	D. Scheibert
	Sue Ann Mouton	D. Scheibert
	Tongzimian	Flong
	Valentine Day	D. Nathan
	Charlene, Var.	D. Scheibert
	Seedling No. 91	R. Hardison

LAKELAND, FL

JANUARY 30, 1993

Best in Show	Tammia	Jim Pinkerton
Open Large	Rosea Superba V.	Paul & Mary L. Wilson
Open Medium	Dennis Vaughn	C. M. & Lillian Gordy
Treated Medium	Cherries Jubilee	Paul & Mary L. Wilson
Open Small	Pink Perfection	Dr. Howard Smith
Miniature	Fire Cone V.	Fred Hahn
C. JAPONICA (Protected)		
Large	Margaret Davis	Fred Hahn
Small	Little Babe Var.	Bill & Sally Hardwick
C. RETICULATA (Includes hybrids with reticulata parentage)		
In Open	Frank Houser Var.	Paul & Mary L. Wilson
Protected	Frank Houser Var.	Bill & Sally Hardwick
C. HYBRID (With other than reticulata parentage)		
In Open	Julia Hamiter	Tom & Mary Adams
Protected	Pink Dahlia	Billy & Sally Hardwick
Best White Bloom	Silver Cloud	Jim Pinkerton
Best Bloom by Novice	Ville de Nantes	Natalie Smith
GOLD CERTIFICATES		
In open, won by	Sweepstakes Overall	C.M. & Lillian Gordy
Protected, won by	Sweepstakes Local	Cecilia Smith
SILVER CERTIFICATES		
In open, won by		Lakeland

C. RETICULATA (Includes hybrids with reticulata parentage)
Certificate won by Bill Hardwick for H564, Originated by Homeyer, Received Leg

ATLANTA GA

FEBRUARY 20-21, 1993

C. JAPONICA (IN OPEN) - LOCAL BLOOM		
Best	Tomorrow Var.	Mrs. C.A. Donaldson
Runner-up	Donckelarii	Rev. Bonneau Dickson
IN OPEN - OUTSIDE ATLANTA		
Best	Ville De Nantes	Mr. & Mrs. R.F. Jeffares
Runner-up	Pink Perfection	C.M. & Lillian Gordy
Tray of 3	Elizabeth Weaver Var.	Bill & Sally Hardwick
C. JAPONICA (PROTECTED)		
Best Very Large	Tomorrow Park Hill	Tyler & Buck Mizzell
Runner-up	Guilio Nuccio Var.	Clara & Fred Hahn
Large	Helen Bower	Clara & Fred Hahn
Runner-up	Saudade De Martin's Branco	Bill & Sally Hardwick
Medium to Large	Ville De Nantes	John Newsome

Runner-up	Lady Kay	M/M R.F. Jeffares
Medium	Margaret Davis	Clara & Fred Hahn
Runner-up	Diddy's Pink Organdie	Jim Pinkerton
Small	Tom Thumb	George & Jane Griffin
Runner-up	Little Babe Var.	Bill & Sally Hardwick
Miniature	Tammia	George & Jane Griffin
Runner-up	Sugar Babe	Dr. Dave Scheibert

C. RETICULATA (Includes hybrids with reticulata parentage)

Tray of 3	Fluted Silk	Jim Pinkerton
Protected	Delta Dawn Var.	Jim Pinkerton
Runner-up	Larry Piet	Bill & Sally Hardwick
2nd Runner-up	Harold Paige	Clara & Fred Hahn

C. HYBRID (With other than reticulata parentage)

Protected	Mona Jury	Clara & Fred Hahn
Runner-up	Fair Jury	Clara & Fred Hahn

Best Seedling (No Leg) Homeyer 564 Exhibited by: Bill & Sally Hardwick, Reynolds, GA

Best White Bloom	Silver Chalice	Clara & Fred Hahn
Runner-up	Elegans Champagne	Clara & Fred Hahn
Best Bloom by Novice	Magnolia Flora	Mr. & Mrs. F. Bart Smith

GOLD CERTIFICATES
In open, won by C.M. & Lillian Gordy - Ocala, FL
Protected, won by George & Jane Griffin, Nashville, TN

SILVER CERTIFICATES
In open, won by Victor A. Bowdolf - Charleston, SC
Protected, won by Clara & Fred Hahn - Charlotte, NC

CHARLOTTE, NC
FEBRUARY 6, 1993

C. JAPONICA (IN OPEN)

Best	Lady Kay	Donna & Bill Shepherd
Runner-up	Elegans Supreme	Parker Connor
Novice	Lady Clare	Margaret A. Allison

C. JAPONICA (PROTECTED)

Large-Very Large	Elegans Supreme Var.	Clara & Fred Hahn
Runner-up	Elegans Champagne	Mabel & Joe Austin
Medium	Ville De Nantes	Clara & Fred Hahn
Runner-up	Margaret Davis Picotee	Clara & Fred Hahn
Small	Little Susie	Mabel & Joe Austin
Miniature	Tammia	Parker Connor
Runner-up	Man Size	John Newsome

C. RETICULATA (Includes hybrids with reticulata parentage.)

Protected	Hall's Pride Var.	Gist Duncan
Runner-up	Jean Toland	Mabel & Joe Austin

C. HYBRID (With other than reticulata parentage)

Protected	Mona Jury	Mabel & Joe Austin
Best white Bloom	Han Ling Snow	Ann & Mack McKinnon
Protected Best Bloom by Novice	Curtain Call	Delores Colesworthy

GOLD CERTIFICATES:
In open, won by Parker Conner
Protected, won by Clara & Fred Hahn

SILVER CERTICICATES:
Protected, won by Jim Pinkerton

COLLECTIONS:		
Japonica	3 of same variety	Sandra & John Penny
	5 different varieties	Ann & Mack McKinnon
	3 different varieties	Jim Pinkerton
Hybrid	3 different varieties	Ann & Mack McKinnon
	3 of same variety	Bill & Mildred Robertson
Court of Honor	Mrs. R.L. Wheeler	Parker Connor
	Dawn's Early Light	Parker Connor
	Betty Sheffield Blush Sup.	Clara & Fred Hahn
	Lady Laura	Parker Connor
	Tomorrow's Dawn	Jim Pinkerton
	Margaret Davis	Clara & Fred Hahn
	Elizabeth Weaver	Clara & Fred Hahn
	Helen Bower, Var.	Ann & Mack McKinnon
	Mona Jury, Var.	Mabel & Joe Austin
	Larry Piet, Var.	Mabel & Joe Austin
	Mouchang Var.	Jim Pinkerton
	Harold Paige	Ann & Mack McKinnon

WILMINGTON, NC
FEBRUARY 27-29, 1993

C. JAPONICA (IN OPEN)		
Large	Veiled Beauty Var.	Parker E. Connor, Jr.
Medium	Dixie Knoght Supreme	Bill & Molly Howell
Small	Maroon & Gold Var.	Bill & Molly Howell
C. JAPONICA (Protected)		
Large	Vernon Mayo Var.	Mabel & Joe Austin
Medium	Nuccios Jewel	Clara & Fred Hahn
Small	Little Susie	Clara & Fred Hahn
Miniature	Lady Home's Blush	Dr. & Mrs. Herbert Racoff
C. RETICULATA (Includes hybrids with reticulata parentage)		
Protected	Hall's Pride Var.	Mabel & Joe Austin
C. HYBRID (With other than reticulata parentage)		
Protected	Pink Dalhia Var.	Mabel & Joe Austin
Best white Bloom	Ruffian	Mabel & Joe Austin
Best Bloom by Novice	Dr. Zhivago	H.J. Haeffelr

GOLD CERTIFICATES:
In open, won by Parker E. Connor, Jr., Edisto Island, SC
Protected, won by Annabelle Fetterman, Clinton, NC
SILVER CERTIFICATES:
In open, won by T. E. Powers, Wilmington, NC
Protected, won by Clare & Fred Hahn, Charlotte, NC

C. japonica certificate won by Joe Austin for Mutant, Originated by Joe Austin, Smithfield, NC

COURT OF HONOR (PROTECTED)	Mrs. W.W. Davis Special	Jim Pinkerton
	Helen Bower	Clara & Fred Hahn
	Redwood City Var.	Clara & Fred Hahn
	Rachel Tarphy	Dr. & Mrs. Herbert Racoff
	Elegans Supreme Var.	Clara & Fred Hahn
	Rosea Superba	Annabelle Fetterman
	Elegans Champagne	Clara & Fred Hahn
	Jean Purcell	Sadie & Pope Lyon

COURT OF HONOR (UNPROTECTED)

	Magic City	Parker Connor
	Pink Pagoda	Parker Connor
	Dixie Knight Var.	Parker Connor
	Tiffany	Parker Connor
	Nuccio's Pink Lace	Parker Connor
	Snowman	Parker Connor
	R.L. Wheeler	T.E. Powers
	Royal Velvet	Donna & Bill Shepherd

COLLECTION OF TRAYS (UNPROTECTED)

Three Blooms of same variety	Flame	Bill & Molly Howell
Five Blooms of different varieties	Guillio Nuceio, Flame, Donk, Grand Slam, Dixie Knight's Supreme	Bill & Molly Howell

COLLECTION OF TRAYS (PROTECTED)

Three blooms of same variety	Dr. Clifford Parks	Sadie & Pope Lyon
Five blooms of different varieties	Dr. Harry Moore V., Green Yates, Delta Dawn, S.A. Dunn V., Redwood City V.	Joe Austin

AIKEN, SC

JANUARY 9-10, 1993

C. JAPONICA (PROTECTED)

Very Large	Tomorrows Lisa	Sandra & John Penny
Medium	Sawanda's Dream	Tyler & Oliver Mizzell
Small	Purple Swirl	Mrs. Alfred Bissell
Miniature	Mansize	Mrs. Alfred Bissell

C. JAPONICA (OPEN)

Runner-up	Lady Laura	Parker Connor, Jr.
Runner-up	Miss Charleston, Var.	Parker Connor, Jr.

C. RETICULATA (Includes hybrids with reticulata parentage)

Protected	Cameron Cooper	Sandra & John Penny

C. HYBRID (With other than reticulata parentage)

Protected	Delores Edwards	Clara & Fred Hahn
Best White Bloom	Elegans Champagne	Sandra & John Penny
Best Bloom by Novice	Mathotiana	Ed Mann

GOLD CERTIFICATES
In open, won by Parker Connor, Jr.
Protected, won by Jim Pinkerton

SILVER CERTIFICATES
In open, won by Elizabeth Brown
Protected, won by Mrs. Alfred Bissell

COASTAL CAROLINA CAMELLIA SOCIETY SHOW

JANUARY 23, 1993

BEST IN OPEN

Large	Tomorrow Park Hill	Albert V. Ewan
Runner-up	Clark Hubbs	Parker E. Connor, Jr.
Medium	Dixie Knight, Var.	Parker E. Connor, Jr.
Runner-up	Magic City	Parker E. Connor, Jr.
Small	Cheerful	Elizabeth L. Brown
Runner-up	Tammia	Parker E. Connor, Jr.

BEST PROTECTED		
Large	Tomorrow Park Hill	Mr. & Mrs. Oliver Mizzell
Runner-up	Diddy's Pink Organdy	Sandra & John Penny
Medium	Margaret Davis	Joe & Mable Austin
	Margaret Davis Picotee	Clara & Fred Hahn
Small	Grace Albritton	Bill & Mildred Robertson
Runner-up	Black Tie, Var.	Marie & Paul Dahlen
Best Seedling		Annabelle Fetterman
Best Miniature	Little Slam	Annabelle Fetterman
Best Reticulata: Open	Valentine Day	Pete Lambrakos
Best Reticulata: Protected	Frank Houser	Jim Pinkerton
Best Hybrid in Open	El Dorado	Donna & Bill Shepherd
Best Hybrid: Protected	Julia	Annabelle Fetterman
Best Miss Charleston in Open		Rupert Drews
Best Miss Charleston Protected		Mrs. Alfred Bissell
Best White Bloom in Open	Bea Rogers	Parker E. Connor, Jr.
Best White Bloom Protected	Elegans Champagn	Sandra & John Penny
Best Novice	Professor Charles Sargent	Brady Hair
SWEEPSTAKES in Open		Parker E. Connor, Jr.
SWEEPSTAKES Protected		Jim Pinkerton
Runner-up Sweepstakes in Open		Betty L. Brown
Runner-up Sweepstakes Protected		Annabelle Fetterman
COURT OF HONOR in Open	Betty Sheffield Supreme	Robert Deadmond
	Grand Slam	Parker E. Connor, Jr.
	Carter's Sunburst Blush	Parker E. Connor, Jr.
	Midnight Magic	Parker E. Connor, Jr.
	Yours Truly	Ed Powers
	Rev. John Bennett	Elizabeth L. Brown
Runner-up Court in Open	Ville de Nantes	Albert V. Ewan
	Donckelarii	Dr. & Mrs. Harry Mims
	Elizabeth Arden	Dr. & Mrs. Harry Mims
	R.L. Wheeler	Marion Edwards
	Emma Grace	Parker E. Connor, Jr.
	Seafoam	Parker E. Connor, Jr.
COURT OF HONOR Protected	Hall's Pride	Joe & Mable Austin
	Ville de Nantes	W.H. Rish
	Tom Thumb	Annabelle Fetterman
	Takanini	Annabelle Fetterman
	Swan Lake	Jim Pinkerton
	Tomorrow Var.	Mr. & Mrs. Olier Mizzell
Runner-up Court Protected	Charlie Bettes	Mr. & Mrs. Oliver Mizzell
	Fair Jury	Jim Pinkerton
	Dawn's Early Light	Jim Pinkerton
	Guest Star	Jim Pinkerton
	Lasca Beauty	Sandra & John Penny
	Wildfire	Annabelle Fetterman

COLUMBIA, SC

FEBRUARY 13-14, 1993

Most Outstanding Japonica Bloom in Show: Elegans Splendor		Joe & Mabel Austin
C. JAPONICA (In Open)		
Lg. to Very Large:	Carter's Sunburst Pink Var.	Parker E. Connor, Jr.
Runner-up	Clark Hubbs Var.	Parker E. Connor, Jr.

Medium	Betty Sheffield Supreme	Parker E. Connor, Jr.
Runner-up	Pink Pagoda	Parker E. Connor, Jr.
Small	Angelo Botti	Elizabeth L. Brown
Runner-up	Pink Perfection	Grady Stokes, Jr.
C. JAPONICA (Protected)		
Lg. to Very Large	Tomorrow Var.	Oliver & Tyler Mizzell
Runner-up	Tomorrow's Dawn Bessie	Clara & Fred Hahn
Medium	Ville de Nantes	Clara & Fred G. Hahn
Runner-up	Nuccio's Jewel	Clara & Fred G. Hahn
Small	Little Susie	Mabel & Joe Austin
Runner-up	Hishi Karaito	Mrs. Alfred Bissell
Miniature	Dr. Bob	Elliott & Lawanda Brogden
Runner-up	Tammia	Marvin & Ruth Jernigan
C. RETICULATA (Includes hybrids with reticulata parentage)		
Very Large Protected	Jean Pursel	Mabel & Joe Austin
Large/Medium/Small	Margaret Vickery	Clara & Fred G. Hahn
Best Valentine Day	Valentine Day Var.	Dot & Jack Teague
C. HYBRID (With other than reticulata parentage)		
Protected	Mona Jury Var.	Mabel & Joe Austin
Runner-up	Mona Jury	Clara & Fred Hahn
Open: Best White Bloom	Swan Lake	Parker E. Connor, Jr.
Protected: Best White Bloom	Elegans Champagne	Mabel & Joe Austin
Best Bloom by Novice	Magnoliaflora	Nancy and Sam Suaudom

GOLD CERTIFICATES
In open, won by Parker E. Connor, Jr.
Protected, won by Clara & Fred G. Hahn, Jr.

SILVER CERTIFICATES
In open, won by Elizabeth L. Brown
Protected, won by Mabel & Joe Austin

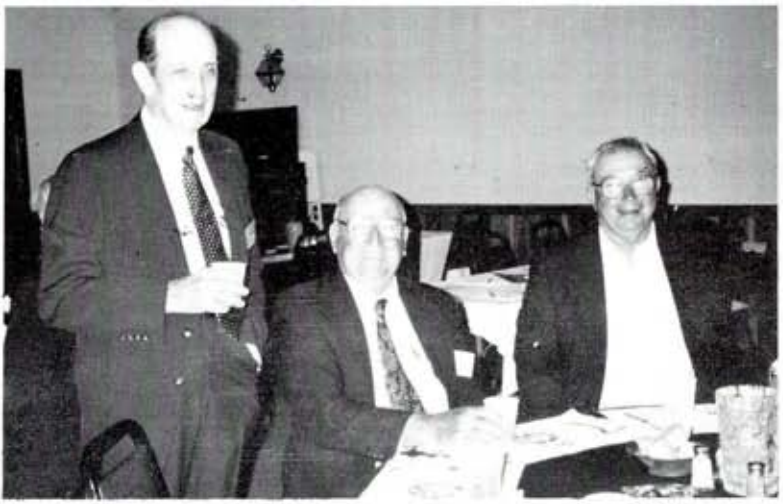
Best Seedling Treated: Homeyer H290, Jim Pinkerton
Best Seedling Untreated: Homeyer H390, Bill Hardwick

MIDDLE TENNESSEE CAMELLIA SOCIETY

FEBRUARY 27-29, 1993

JAPONICAS		
Large to Very Large	Show Time	John Newsome
Medium-Large	Ville de Nantes	John Newsome
Medium	Margaret Davis	M/M R.F. Jeffares
Small	Pink Perfection	John Newsome
Miniature	Grace Albritton	M/M R.F. Jeffares
Best White Bloom	Lucy Stewart	M/M R.F. Jeffares
Best Seedling	Japonica	Louise Poe Hairston
Best Non Retic hybrid	Mary Phoebe Taylor	John Newsome
Best Reticulata	John Hunt	Louise Poe Hairston
Sweepstakes		John Newsome
Runner-up		George & Jane Griffin
Tray of Three Blooms	Black Gold	Dr. David Scheibert
	Ville de Nantes	John Newsome
	Angel Wings	George & Jane Griffin
	Francie L.	John Newsome
COURT OF HONOR	Charlie Bettes	John Newsome
	Chie Tarumoto	John Newsome

Fircone	John Newsome
Dawn's Early Light	John Newsome
Tomorrow Var.	John Newsome
Man Size	John Newsome
De Davis Var.	John Newsome
Maroon & Gold	Curt Smith
Angel Kloman	G. & J. Griffin
Little Babe Var.	Jeffares
Jessie Burgess	R. Davidson
Mona Jury	Jeffares
Waltz Dream	R. Davidson
Bill Goertz	L. Hairston
Eleanor Martin Supreme	Merrill Fairchild
Harold L. Paige	L. Hairston



ACCS Banquet — Ivan Mitchell, Parker Connor, Rupert Drews

ACCS Pool Party — Sandra Penny, Clara Hahn, Tyler Mizzell, Mildred Robertson

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ANNUAL MEETING

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Contact Sheilgh at 803-448-1691 for information.

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