

The *Camellia* Journal



'Roy Stringfellow'

ACS Reg. No. 1748

A very large, red, semidouble *C. reticulata* hybrid ('Crimson Robe' x 'Jean Pursel'), mid-season to late bloomer. Originated by Frank Pursel of Oakland, California and propagated by Ray Gentry's Nursery, Jackson, Mississippi.

SPECIAL ISSUE — BASIC CULTURE

AN OFFICIAL PUBLICATION OF THE AMERICAN CAMELLIA SOCIETY

VOL. 39, NO. 4

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The Camellia Journal

WORLD'S LARGEST PUBLICATION DEVOTED TO THE GENUS CAMELLIA

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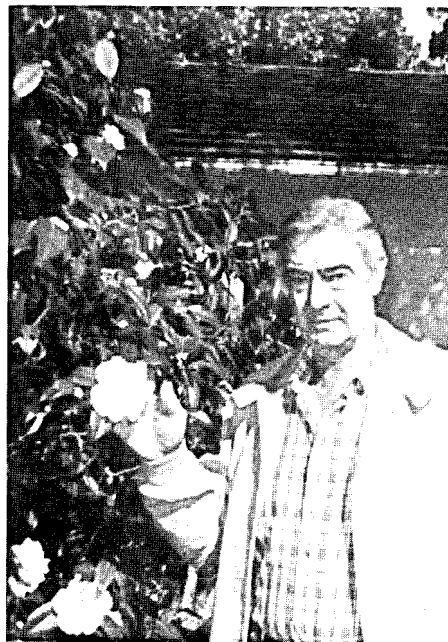
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President's Message



JACK L. MANDARICH

To quote Judge Sherill Halbert, Past President of the American Camellia Society, I will say, good years pass swiftly, so it has been with these last two years. They have gone all too soon, but the memory of them will always stay with Nancy and me.

What a debt we owe to the magnificent flower that rewards us not only with gorgeous blooms, but also brings us together.

We on the West Coast were very saddened to learn that many of the camellia growers in the Southeastern part of the United States, lost many plants during the freeze last winter. Hopefully you will regroup and not abandon the hobby, we love so much.

The convention in Mobile, will terminate my two-year term as President of the American Camellia Society. So I would like to take this opportunity to thank each of you for your support, especially the Committees and their committee members and the Governing Board.

How fortunate we are to have Milton H. Brown, as our Executive Director, Editor at A.C.S. Headquarters with his lovely wife Ann. Milton the "Honcho" of

the Staff Headquarter "Brownie Team," now has a new member, horticulturist Betty Hotchkiss, who will guest edit this issue of the journal. Betty will be responsible for planning and conducting research for the American Camellia Society. Finding the solution in propagating woody species in tissue culture should prove exciting and rewarding for all of us.

In my two years, our Governing Board meetings were very productive and we were able to solve many items, small or large. We did however fail in one category and that was membership. Current figures show that we had a 5% decline in membership. With the Christmas Holidays upon us, maybe we could make up of the 5%, by giving a friend of yours a gift membership to the American Camellia Society.

The sudden illness and death of Clyde X. Copeland, Past President of A.C.S. and Chairman of the Exhibitions and Awards Committee was a shock not only to friends in the Gulf Coast, but to all parts of the country where camellias are grown. The passing of Clyde is a great loss to all of us. It was a privilege to know and work with Clyde.

As a final request, I want to take this opportunity to ask all of you to give G. F. Abendroth President Elect all of the support you possibly can. With his expertise in society affairs, A.C.S. will be in capable hands with him and his lovely wife, Evelyn.

STATEMENT REQUIRED BY ACT OF OCTOBER 23, 1962; Section 4369, Title 39. United States Code, SHOWING THE OWNERSHIP, MANAGEMENT AND CIRCULATION OF *The Camellia Journal* published four times a year at Fort Valley, Peach County, Georgia. (Date of filing: September 28, 1984.)

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I certify that the statements made by me above are correct and complete.

MILTON H. BROWN
Editor

From The Guest Editor

The Camellia — Its History

MILTON H. BROWN



Betty Hotchkiss
Guest Editor

(Photo by Kay Berridge, picture courtesy of
Playground Daily News, Fort Walton Beach,
Florida.)

It has been my pleasure and privilege to serve as guest editor for this special issue on "The Basics of Camellia Culture." Preparing this issue has been an experience of learning. As horticulturist for the American Camellia Society, this provided a good opportunity for me to study and review camellia culture.

In preparing this issue, I have made extensive use of the library facilities here at headquarters. We have the largest collection of camellia literature in the world. I would encourage all of our members as well as anyone interested in camellias to visit us and use these facilities. Many of the articles I prepared for this issue were taken from the storehouse of knowledge in our library.

It is our hope that this special issue will provide information for both the novice and experienced grower. For the experienced grower, this issue will provide an opportunity to review information probably seen elsewhere in the past. It will also be a chance to compare the methods you use in your camellia program with those used by others. For the novice, this issue is full of information on how to grow camellias successfully. We feel that camellia growing is easy — if you know how. And that is what this issue is about.

"In the whole range of splendid exotics which have been introduced into this country, there are few, if any, that combine so much elegance and beauty, either as it regards the dark, shining *ever-green* of their foliage, or the dazzling brilliancy of their flowers, as those constituting the natural order *Camelliae*. At all seasons of the year it is unrivalled for the richness of its foliage, but in the dreary months of winter, when almost all the attractions of the floral kingdom are wrapt in slumber, it stands forth with peculiar splendor, displaying its showy blossoms of varied hue, and reigning at once the price and glory. . . ." This statement by M. P. Wilder, Esq. in *The American Gardener's Magazine* of January, 1835 certainly tells the world why *camellias* have been so important to and so loved by gardeners for so many centuries.

Camellia sinensis, the "common tea plant," was known for centuries, perhaps millennia, before Carolus Linnaeus originated his binomial system of nomenclature. In 1753 he published *Species Plantarum* in which he gave the name *Thea sinensis* (vol. 1, p. 515; May 1753) to the tea plant now called *C. sinensis* and the name *Camellia japonica* (vol. 2, p. 698; August 1753) to Kaempfer's "Tsubakki." Under *The International Rules of Botanical Nomenclature* as modified at Amsterdam in 1935 the two volumes of Linnaeus' *Species Plantarum* are treated as having been published simultaneously in May 1753; otherwise, the name *Thea* would have priority over *Camellia*, whereas now the combined genus bears the name *Camellia*.

According to Chinese legend the discovery of the use of tea, as a beverage, was made by Nung (Chin-nung), 2737-2705 BC. J. Robert Sealy, in his *Revision of the Genus Camellia*, adds, "The earliest written record that may refer to the tea-plant seems to be that in the book *Yen tsz' ch'un ts'ut*, which is about a celebrated Chinese statesman, Yen Ying, who died in 493 BC." Such was the legend of tea in ancient times in China. Perhaps it was true — perhaps truth mixed with fantasy. However, by the time that Lu Yu (Lo Yu) wrote his *Tea Classic Ch' ching*, facts do seem to take over. In this book he records in 793 AD that a tax was levied on tea. In his excellent book *The Tea Ceremony*, the noted Japanese author Senō Tanaka wrote that "Tea did not grow in Japan until the first seeds were brought from China during the T'ang dynasty (618-905 AD), when cultural exchange between the two countries reached a peak. The first mention of a formal ceremony involving the drinking of tea is in the eighth century, when Emperor Shomu (724-49) invited the monks who had participated in his religious service to take tea in his palace." Tanaka goes on to say, "It is almost certain that if tea had been grown in Japan, or was more readily available, the Japanese tea ceremony might not have been created, since its rules and formalities are based on the concept of tea as a rare and valuable commodity."

So far, as known now, camellias made their first appearance in Occidental literature when James Petiver published a description of one of them, it happened to be *C. japonica*, in the 'Philosophical Transactions' and made reference to this description accompanied by a drawing of a twig with leaves, buds and flowers in his 'Gazophylacii Naturae & Artis,' Tab. XXXIII, Fig. 4. The year was 1702.

Although Linnaeus did not say so in his 'Systema Naturae,' it is commonly accepted that he named "Camelia" in posthumous honor of George Joseph Kamel, whose surname in Latin was *Camellus*. Kamel was born at Brunn, Moravia, April 21, 1661. According to the Catholic Encyclopedia (1908), he entered the Society of Jesus in 1682 as a lay brother, and although sometimes referred to as 'Father Camellus' it is not certain that he was ever ordained a priest. On the title page of the article written by him and published by John Ray as an appendix to 'Historia Plantarum,' his title and name are given thus: Rev^{do} Patre Georgio Josecho Camello. S. J. Kamel became an apothecary of sorts and a botanist. He was interested in plants because many crude drugs of great or small value, used in those days in the treatment of human ills, were secured from plant sources. Kamel went out to the Marianas (Ladrões) in the Pacific in 1688 as a missionary, and later to Manila where he set up a clinic for the poor. He collected plant specimens that were sent to England, and these together with his writings contributed to the knowledge of natural history of the area.

Here and there in camellia literature the statement is made that Kamel brought the camellia to Europe. There is no evidence that he ever returned to Europe after he went out to the islands of the Pacific. Nor is there evidence that he ever visited China or Japan where camellias are native and where at that time they undoubtedly grew in gardens. Since camellias are not native in the Philippines and are not garden plants in Manila, it is likely that he never saw one. The statement also has been made that Kamel brought these plants to the attention of Linnaeus and furnished him information about them. This clearly was an impossibility, since Kamel died in the year before Linnaeus was born.

And so the interesting legend of Kamel's contact with camellias that has come down through camellia literature for more than a century has to be dismissed as an unsupported myth. The only connection is that Linnaeus honored Kamel (*Camellus*) by naming the genus *Camellia* for him in 1735, twenty-nine years after his death in Manila.

In 1829 William Beattie Booth read a paper on camellias in which he described "six distinct species" as having been introduced into England: *C. sasanqua*, *C. oleifera*, *C. kissi*, *C. maliflora*, *C. reticulata*, and *C. japonica*.

The first *C. reticulata* known in the Western World was brought to England in 1820 from Canton, China by sea Captain Richard Rawes; another



KÄMPFER'S CAMELLIA

At the left is a reduced reproduction of Englebert Kämpfer's illustration of *C. japonica*, the Tsubakki of Japan, from his "Amœnitatum Exoticarum," p. 851, 1712.

EDWARDS' CAMELLIA

At the right, greatly reduced, is an illustration made from the 1745 colored bird and camellia plate by George E. Edwards.



one of this kind was brought in by John Damper Parks in 1824. These flourished and many very large plants are extant today in England. As late as 1945 the only *C. reticulata* ('Captain Rawes') known to be growing in the United States was one at the University of California in Berkeley, one in the garden of "Judge" Arthur Solomon of Savannah, Georgia, and six large plants in a greenhouse at the estate of William R. Coe, "Planting Fields" near Oyster Bay, Long Island, New York.

The third species of the genus that is well-known and grows far and wide is the *C. sasanqua*. It was the second species to be named and was growing in Japan for centuries. However, it was first introduced in England in 1811. The first sasanqua that we know to have been listed in a catalog in America was in a catalog of William Prince's in Flushing, N. Y. in 1822 which lists "Lady Bank's tea leaved sasanquas" prices at \$10.00. The sasanqua was apparently not popularly accepted in America until around the turn of the present century. *C. sasanqua* seems not to have been very favorable, perhaps, because its blooms are too modest in color, form and texture to be appreciated by many people. Even today, *C. sasanquas* get short shrift from most growers who seem more bent on growing large flowers for show purposes rather than smaller

flowers and beautiful plants as garden accents.

Despite the regular sea trade between North America and Europe, the introduction of the camellia seems to have been quite long delayed. It is reported that the first importation of processed tea was by the Dutch into New York in 1650.

As might be expected the first species of the genus camellia to enter the United States was the tea plant (*C. sinensis*). Seeds were first sent to Savannah, Georgia to be planted in the famous Trust Gardens; this was in 1744 according to a report of Francis Moore who made his report that year after returning to England. The seeds were sent from the East Indies and, according to Moore, "Though great Care was taken, did not grow." According to the U. S. Patent Office's Report of 1857, tea plants came to Georgia in 1772. It is known to have been growing on Skidaway Island, near Savannah before 1805 according to another report. Tea growing in Georgia was a failure because of insufficient capital and other mitigating circumstances such as the malaria hazard of the Savannah region. In 1813 a perhaps more serious effort was made to grow tea in the Charleston, South Carolina nursery of Philippe Noisette. Tea growing lasted longer in South Carolina, but it, too, did not flourish.

Contrary to the generally held "camellia mythology," *C. japonica* — to become known for more than a century in the south just as "japonicas" and not "camellias" — did not first come to our Southland. The well-known botanist M. P. Wilder in 1835 and the learned H. Harold Hume in 1946 attribute the first one coming into, of all places, Hoboken, New Jersey. John Stevens, by both of these authors, is credited with having imported the single red from England in 1797 or 1798. Its origin is not known, but it may be connected with the single red of Lord Petre's. Michael Floy, who later established a nursery in Bowery Village in New York City, informed Mr. Wilder that he brought over with him from England in July 1800 "a plant of the Double White (later named 'Alba Plena') for John Stevens, Esq. of Hoboken, New Jersey, who had two or three years previously imported the Single Red."

In the Southern United States some of the old camellias were direct imports from Europe, but according to Hume, for the most part they came from greenhouses of cities of the Atlantic seaboard from Washington, D. C. northward. Large collections of camellias were soon to be part of the plantation life of Charleston, Savannah, Wilmington, Mobile, New Orleans and ports of Mississippi. Peer says, "It was probably in the 1830's that the wonderful camellia collections of Magnolia Gardens and Middleton Place, in the Charleston area, were first planted. Both of these Gardens have become internationally famous, and contain many camellia plants more than 100 years old."

The camellia pioneer of the West was James L. L. F. Warren who went from Boston to Sacramento in 1850, the year California became a state. He sent back to Boston for plants, including camellias, and seed which arrived aboard the S. S. Panama on February 3, 1852. They were, according to A. E. Morrison, a founding member of the ACS, advertised for sale in the *Sacramento Union* on February 7th. Mr. Warren predicted in 1853, "This truly magnificent plant, unsurpassed in loveliness will ere long become acclimated with us to form our pride as an ornamental tree in our garden." Sacramento was named "Camellia City" in 1910. Camellias soon spread throughout California and top growers and research people were to be found in both northern and southern California. Camellias then also went "up the coast" to Washington and Oregon.

What is recognized as probably the camellia "bible" is the book *A Review Of The Genus Camellia* by J. Robert Sealy, 1958. In it Sealy listed 12 sections containing 82 species as well as a group of 24 species that Sealy called "Dubiae." The species in this group were too inadequately known for Sealy to place them in any of the 12 sections. In 1981 Professor Chang Hung-ta released *A Monograph On The Genus Camellia* which drastically changed the taxonomy of this genus. Professor Chang recognizes 196 species and describes 91 new species and six new varieties in addition to including six new combinations and numerous new synonyms. This book was translated into English and published in 1984 as *Camellias* by Chang Hung-ta and Bruce Bartholomew. This book, in effect, replaces Sealy's as the new "bible" of camellias. (This book is available through the American Camellia Society which co-

operated in its publication for \$29.95 postpaid.) It contains 240 pages and 92 line drawings executed in an exquisite style.

Now is the time for all camellia growers to ponder the words of Verschaffelt in 1838:

"The Camellia, by the elegance of its aspect, the persistence of its beautiful foliage, the amplitude and the brilliant coloring of its blossoms, has won the favor of all lovers of beautiful plants. It reigns today almost as a despot in every collection, of which it is the principal ornament. It recreates the lover of flowers the most surfeited with horticulture pleasures; the ladies seek it to add to their adornment; its blossoms of the most dazzling white, the brightest pink, the most splendid red, or variegated with those different colors, accompany or animate their complexion in the most charming manner. No bouquet without camellias, no flower painting without it. The camellia, in a word, is indispensable for everything everywhere."

(For more detailed history of camellias in the United States and the rest of the world see *The Camellia, Its History, Culture, Genetics And a Look Into Its Future Development*, pages 1-18; *Camellias* by Chang Hung-ta and Bruce Bartholomew; and the 1984 *Yearbook* for a detailed history of the *Camellia reticulata* by the editor.)

Why Join Camellia Societies

PHILIP W. IRELAND

For an individual, attracted by the beauty and exquisite color of camellia blooms, the desire to move from passive admiration to positive action of growing camellias of one's own and of acquiring knowledge and experience of camellias and their blooms, on the one hand, and how best to grow camellias of one's own choice, on the other, it is a case of doing what should come naturally-joining with other camellia lovers and growers in the local camellia society and, at a national and more comprehensive level, the American Camellia Society.*

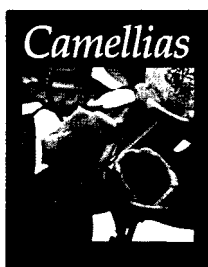
The personal benefits of joining both societies exist primarily in two categories. One, on the practical side, is the

knowledge and expertise acquired on how to grow satisfying blooms successfully, and the internal satisfaction, on the other, of associating and working with like-minded companions in a common objective.

In addition to the spectrum of personal benefits derived from participation in camellia societies is the personal satisfaction of making one's own contribution to furthering knowledge of the expanding world of camellias.

Leaders of the societies, local and national, are fully aware that their members, old and new, seek full information and the acquisition of know-how. Members want to know what species — *japonica*, *sasanquas*, *reticulatas* and their hybrids and what varieties have proven themselves in the climate and other growing conditions in the area. They want to know the merits and demerits of the various methods of camellia propagation and the best ways of carrying out

* The writer can vouch personally for one couple who, passing through San Francisco, had their first glimpse of camellias in a famous florist's window and who, after seeing more beautiful camellias at a show in Washington, D. C., joined the local camellia society on the spot. ACS came shortly afterwards.



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MEMBERSHIP IS NAME OF THE GAME

At the Ocala, Florida Camellia Show in February 1984, the local club had an interesting Membership Booth for the local and ACS. Seen here are (l to r) The Rev. Harold Johnson, Vice President of the local club, and Charles Gadd, a member. The Show is held annually at the lovely Paddock Mall in Ocala. (Photo courtesy of Floyd McHenry, President of the Ocala Camellia Society.)

GET A NEW MEMBER

each one. A myriad of questions are to be answered as to the steps necessary to producing the best camellia blooms in one's own garden.

Joining camellia societies, local and national, is undoubtedly the most effective and the quickest way to acquire the information and advice which growers seek — largely from three types of activities offered by each society: 1. Society meetings with programs designed to meet the needs of its members — talks by the informed and the practical; panels of experts willing to answer questions; work-shops and demonstrations of grafting, air-layering, the use of gibberellic acid and a host of other subjects, even including the making of corsages. 2. Friendly assistance in providing, especially for new members, access to the reservoirs of the knowledge and experience of the other members. Such members have usually acquired, frequently the hard way, the essential knowledge of the hundred and one aspects of camellia culture sought by the new members. 3. Books and articles on camellia culture in society-sponsored publications.

As a society member begins to feel successful in growing camellias, the urge may arise to match blooms with those of other growers. No better opportunity exists for competing than at shows of one's own society, often held in affiliation with the American Camellia Society. The alluring prospect also exists of showing at neighboring societies and eventually of competing against camellia growers from all sections of the country at the shows held in conjunction with the meetings of ACS.

Research-minded members may also have the opportunity to participate in society-sponsored research such as testing heat-resistant camellias for high temperature areas as southernmost Florida or the Southwest or in discovering cold-hardy camellias and hybrids for areas with long and freezing winters. An example of such a society-supported research program might be that which was recently initiated and funded by the Camellia Society of the Potomac Valley for continued research into cold-resistant camellias and into other camellia problems of the area.

Complementing the local societies in providing significant benefits to its members is the American Camellia Society, with its headquarters at Massee Lane, Georgia, not far from Fort Valley. Members visiting Massee Lane will find a warm welcome and an excellent library, a superlative collection of Boehm porcelain, and a splendid new greenhouse. Here the manifold interests of its nationwide constituency are the primary concern of the Executive Secretary, Milton H. Brown and his efficient staff, including the recently appointed Horticulturist, Betty Hotchkiss. The extent of its interests is reflected in *The Camellia Journal*, the table of contents of which indicates the breadth of the field it covers — a tribute to its editor and contributors.

Among other rewarding activities are the programs at the two ACS meetings held annually, to the value of which those attending can vouch. For ACS members whose eyes brighten at the mention of travel, the possibility exists for members to join camellia-oriented tours arranged by ACS. In the past, tours have been undertaken to Australia, New Zealand, the people's Republic of China and Japan.

Within ACS also exist knowledgeable and experienced camellia growers from whom comprehensive information and advice are available. The writer, from personal experience, has yet to find a fellow camellia grower who was not gracious in giving knowledge and experience when sought.

The American Camellia Society, because of its national status and its greater resources is able to go beyond the local societies in their publishing program. *The Camellia Journal*, in which this article appears, is published quarterly. Its articles on camellia culture, prepared by the Horticulture Committee and other specialists, are such that camellia growers at every level can benefit. *The American Camellia Yearbook*, published annually by the Society, features articles of special interest and merit. Both publications are included in the subscription to the Society.

ACS has also published *The Camellia*, edited by David L. Feathers and Milton

H. Brown. The volume contains an encyclopedic range of material on all aspects of the camellia and its culture written by authorities of national and international repute.

In camellia research, the ACS goes further than that possible by local societies, both in scope and depth. In recent years, the principal direction of ACS research has been the control and eradication of petal blight. Assistance to universities has also been provided for work on camellia dieback and root-rot. Assistance has additionally been given to developing and to hybridizing yellow camellias, *C. chrysantha*, and to the development of cold-resistant camellias.

The practical benefits in growing better camellia plants with more rewarding blooms are valid reasons for joining camellia societies, both local and national. Other cogent reasons exist for such action. Among these are the opportunities to establish friendships with those having similar interests within the camellia societies. John Donne has expressed it well: "no man is an island." The friendships with individuals of common aims and objectives such as may be found in our societies cannot be overlooked as valid reasons for joining them.

Important also is the tangible support given to the common effort of the societies, not only to produce sturdier plants, more beautiful blooms and new varieties, but also to widen and to strengthen the world of camellias. It is also the common effort which maintains and expands the gathering and distribution of knowledge, the competitive and non-competitive camellia exhibitions, and the publication of books and periodicals with rewarding contents and illustrations in color as well as in black-and-white, of camellias, aspects of culture and personalities of the camellia world. It has been common effort which has initiated and made possible research of camellia problems. This opportunity to add one's personal support to the common effort on behalf of camellias should be as an important reason to join and to maintain membership in camellia societies as are the personal benefits which flow from such societies.

How To Buy A Camellia*

Whether purchasing a single camellia or assembling a collection, there are a number of factors that should be considered. First on the list is the purpose or primary objective in acquiring the plant; is it desired for the beauty of its individual blooms, for cut flowers, or for its value as a garden plant — its mass blooming effect? While some camellias will meet all these requirements, this is a point for first consideration and the selection should be governed accordingly. This question is, of course, most important where there will be only one or a few camellias — obviously, in a large collection there is greater latitude. Many camellias having very beautiful individual flowers are lacking in plant and foliage beauty and symmetry and/or quantity and duration of bloom for a satisfactory mass effect. Thus they may be quite un-

suitable to any use except for the breathtaking beauty of the individual flower. This is largely true of the *reticulatas* as a class.

The following is a fairly complete check-list of the factors that should be taken into account when purchasing a camellia or camellias:

1. Purpose (or usage, as described above)
2. Performance (suitability to local climate)
3. Planting Method (whether ground or container culture)
4. Placement (suitability to immediate environment — this involves consideration of growth habit, shape, color, exposure, proximity to other plants and other matters discussed later)
5. Flower type (form, size, color)
6. Time of blooming (season)

Performance. Having decided to what purpose the camellia will be primarily devoted, we should next consider

whether it will perform properly in our own particular climate. There are camellias that do well anywhere — others that demand temperatures that are warm in summer, cold in winter.

Planting Method. As a general rule, most camellias which do well in the ground in a given area will also be found satisfactory when grown in containers. However, there are special factors to consider in the latter type of culture due to the artificiality of this method, particularly its limitation of the soil area. The best container subjects are bushy, compact, slow-growing types that have a handsome shape and do not soon outgrow their tub or pot. Because of their character as potted plants, a fairly good mass-blooming effect is desirable. The more vigorous camellias demand and consume greater amounts of water and fertilizer, lacking which they are usually poor performers. Tall-growing types are subject to being knocked over by strong winds and either the plant or container may thus suffer damage; in addition, they soon become unsuited to the ceiling limitation imposed by a covered porch or

* Taken from: *THE CAMELLIA, Its History, Culture, Genetics, And a Look Into Its Future Development*; Feathers, David L., and Brown, Milton H. 1978.

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patio. A fairly heavy-blooming camellia that comes out all at once, that is compact (round) and slow-growing is the type that will give many years of undisturbed, satisfactory container culture, demanding the least attention to watering, feeding, and pruning. This kind of culture is now being widened by the development of types (particularly hybrids) that are spreading, with delicate foliage and blooms — ideal for hanging baskets, pendant usage over walls, etc.

Placement. In some respects, this involves as great discrimination as any other factor. If the camellia is to be against the house under a window, it should be of the low-growing, slow-growing, spreading type; if in a corner, at the side of a doorway, or wherever there is limited lateral space, the “slim jims” — tall and slender, columnar or “fastigate” types are best, especially if height is desired. As most whites spot from the effects of morning dew or rain followed by sunshine, it is best to place them elsewhere than in an exposure open to the east. If you are sensitive about “color clashes,” the reds having a purple cast must be watched as to placement. Camellias should not be planted under surface-rooting plants with invasive root systems such as privet, because their competition is too severe. They should not be placed under evergreen trees with too heavy shade, such as magnolia, bay (and redwood, to a lesser extent) as they will become spindly and yield few blooms due to lack of sun and light. Neither should container-grown camellias be kept in a dark corner of a porch, for the same reason. The fact the camellia serves admirably as an evergreen shrub for a much longer period than as a blooming plant should also be taken into account in choosing as to form and foliage of the plant.

Flower Type. This is primarily a matter for individual taste as to color, form, and size, aside from the question of compatibility with the surroundings. Considerable interest is beginning to be shown in the miniatures of all forms for their novelty and versatility, while the grace and simplicity of some of the better singles and the pleasing informality of irregular blooms of the larger size, including

the *reticulatas*, seems to be meeting with increasing popularity. There are now some charming new soft orchid tones in the *Williamsii* and other hybrids, which promise to broaden the usage of camellias materially. These hybrids are a source of entirely new, delicate, entrancing beauty, in flower, foliage, and plant and contribute an ethereal quality heretofore generally lacking. The choice in this respect is being widened each year, and the greatest developments unquestionably lie ahead of us.

Time of Blooming. Depending upon the species, camellias may be purchased which will cover a range of blooming season running from about September to May. This would permit continuous blooms of one kind or another for three-fourths of the year, provided space were available to accommodate the number of plants that would be required. There are so many factors that dictate the choice in regard to time of blooming that we may speak only in generalities, and this must

also be deemed largely a matter of individual preference and requirement. Generally speaking, one may say, however, that because our gardens are normally barest in the late fall and winter, camellias which bloom during that period fill the greatest need. This is also the time of year when camellia flowers hold on best and have the greatest substance. The late-blooming kinds (March and April) often run into the azalea and rhododendron seasons, which may or may not be desirable. From the standpoint of the camellia solely, the warm days we have then often cause short flower life and color fading. On the other hand, if a great show of bloom is desired simultaneously, camellias which flower then would complement the others. On the whole, one of the most important functions of the camellia is its ability to bloom when other plants will not, thus filling the flower void of the cold season, and its greatest value unquestionably lies at that time of blooming.

ACS

Camellias, Planting And Care*

Site. Most camellias grow and produce better flowers in partial shade. Plants in a northern or western exposure, or otherwise protected from intense winter morning sun, will usually stand more cold weather than those in an eastern or southern exposure.

Choose a planting site with well drained soil. Do not plant where shade trees with shallow root systems will compete with camellias for nutrients and water.

Soil preparation. Camellias will grow in most well drained, acid soils. A soil pH (degree of acidity or alkalinity) of 5.0 to 6.0 is best. Have a soil test made before planting; get instructions and supplies at your county extension office. The test results will tell you what is needed to bring the soil to the desired pH and fertility level. Lime is used to raise the soil pH level on extremely acid soils. However, do not apply lime unless it is recommended by a soil test.

Practically all soils need additional humus or organic matter before planting.

About 2 to 4 inches of peat moss, leaf mold, cow manure or sawdust worked 12 to 18 inches into the soil improves it greatly. At the same time organic matter is mixed with the soil, add fertilizer and lime as recommended by the soil test and mix this in the top 12 to 18 inches of the soil. If a soil test was not made and you think soil fertility is low, mix a complete fertilizer into the soil. Apply at a rate of 2 to 3 pounds per 100 square feet of area.

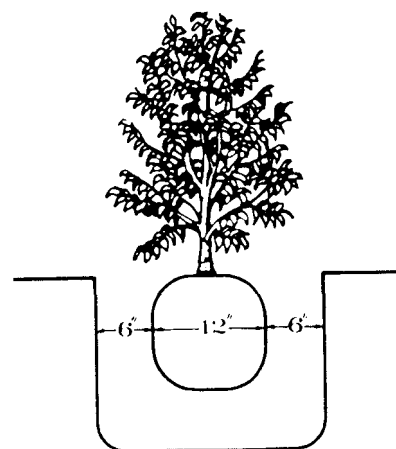


Figure 1. The diameter of the ball of soil on this plant is 12 inches. The diameter of the hole should be a minimum of 24 inches.

* Taken From: *Camellia Journal*, Vol. 35, No. 2, May, 1980.

Planting. Camellias may be set any month of the year if they are properly planted, watered, and cared for. However, late fall through early spring is considered the best time for transplanting in the Southeast. There is adequate moisture during this period and water is a necessity during transplanting. These periods are also best because the plant is dormant or approaching dormancy. The root system continues to develop during

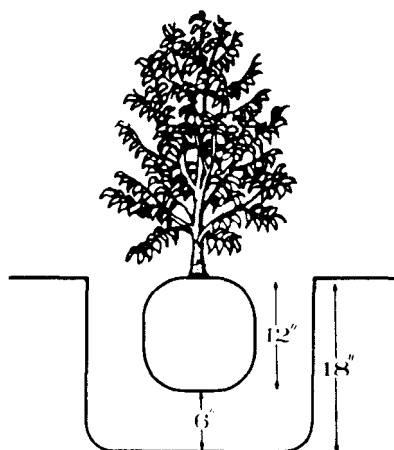


Figure 2. Depth of the hole is also important. Minimum depth should be 18 inches. This will vary with the depth of the ball of soil or the depth of the root system. The hole should be at least 6 inches deeper than the ball of soil or root system.

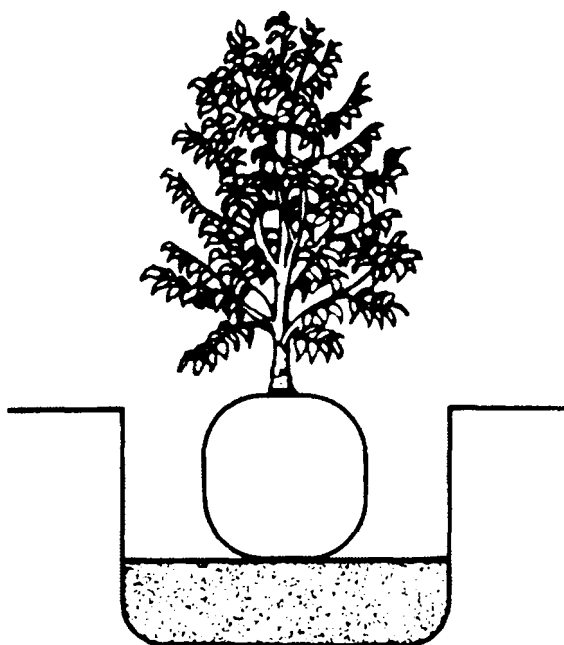


Figure 4. Place the plant in the hole. Adjust to the correct position and depth by removing or adding soil. The top of the ball of soil should be slightly above ground level. By doing this, the plant will then be near ground level after it settles. If planted too deeply, camellias will grow poorly and may die.



Figure 3. Fill the bottom of the hole with 6 inches of a loamy, well drained and aerated soil high in organic matter.

dormancy although the above ground parts are not growing. The newly developed roots will then provide enough moisture and nutrients for the plant to start growth when spring arrives.

Space camellias according to their habit of growth; some varieties spread while others grow upright. Allow a minimum of 5 feet between plants and preferably more.

The size of the hole should be determined by the size of the ball of soil on the root system, size of container, or the spread of the roots on a bare-root plant. Many plants do not grow properly because they are planted in holes that are too small. The general rule is to make the diameter of the hole at least 12 inches greater than the diameter of the root system. Working up entire beds or areas would eliminate the need for large indi-

vidual holes.

Pruning. Although camellias require very little pruning, some may be needed to keep certain varieties at the desired shape and size. Pruning inside limbs back to another branch or lateral will reduce the height and increase air movement without making the plant look unsightly. Prune plants early in the spring at the end of the dormant season.

Watering. There is no set rule for watering; however, the soil should be wet to a depth of 14 to 18 inches with a hose, soil soaker, or sprinkler. When watered to this depth the application may last from 10 days to 2 weeks — even during periods of dry weather. Clay soils require less frequent but heavier waterings than sandy soils.

Mulching. The surface of the soil around the camellia should be mulched with 2 - 4 inches of pine straw, sawdust, peat moss, bark, or some other form of organic matter. Mulch can help plants survive a hot summer by keeping the soil cooler and holding moisture. In addition, mulch can help eliminate weed problems. Mulch can also help improve drainage of the soil which will help reduce root rot.

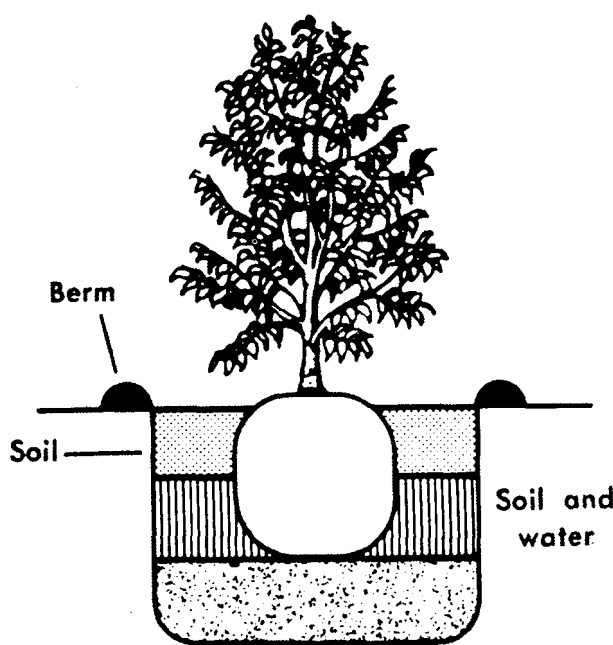


Figure 5. Fill the hole full of soil and water thoroughly. Finish filling with soil. Build a berm, or small terrace, around the plant to help retain water. Thoroughly water the plant.

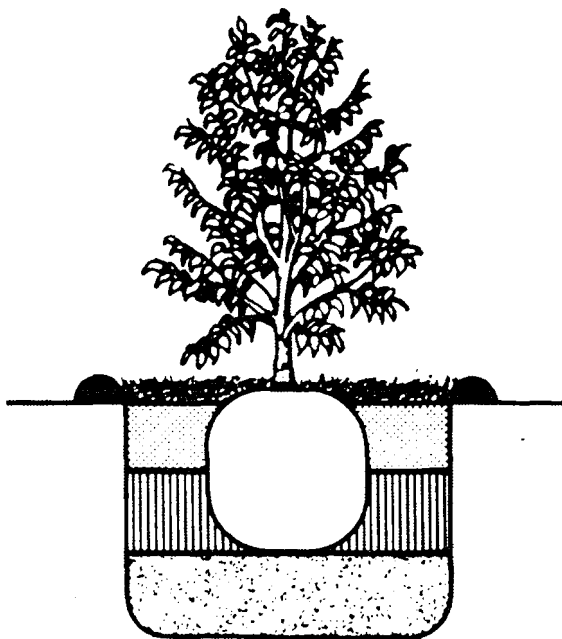


Figure 6. Mulch the surface of the soil around the plant with 2 to 4 inches of pine straw, sawdust, peat moss, bark or some other form of organic matter. Mulch holds moisture, keeps the soil cooler, makes weeding easier, and almost eliminates the need for cultivation.

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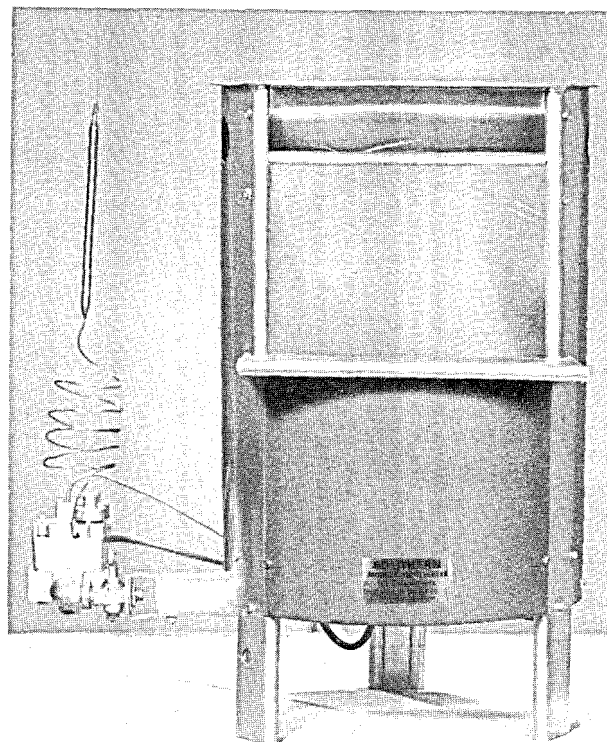
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Soils and Fertilizers

E. C. Snooks

Perhaps no part of plant culture is more important than the choice of the soil medium. Not only will this soil provide anchorage for the plant, but will be the source of nearly all of the mineral nutrients and moisture. With these important roles in mind, one can readily see the importance of providing the correct soil conditions.

Each plant has an “ideal” soil and though most are quite tolerant of variation from this ideal, others are not. Fortunately the camellia has been shown to be quite tolerant of adverse soils, but advantage should not be taken of this fact if one wants to grow and bloom these shrubs to their fullest potential.

The soil requirements for camellias

may be summarized as one which is high in organic matter, retains moisture and possesses excellent drainage characteristics.

How one goes about obtaining this ideal condition will depend upon the soil type characteristic of the planting area, the number of plants to be considered and to a certain extent, the costs involved. Note that time and effort required to prepare the soil has not been included. Soil preparation at the time of planting is a lifetime investment . . . time well spent.

SITE SELECTION

The primary factor to be considered in site selection is the drainage of the soil. If only a few plants are being planted, individual holes will be the method of planting but with large plantings whole areas will be prepared. To check drainage characteristics, dig a suitable hole, fill it with water and check drainage time. Ideally this should only be a couple of hours but if it does not drain overnight the site is unsuited for camellias.

If poor drainage is indicated and no other sites are available, elevated beds should be considered. Drainage tiles are suitable for large plantings but are expensive.

SOIL AMENDMENT

After a suitable site has been selected conditioning or amending of the soil can be undertaken. If the soil is sandy, organic matter should be added to provide moisture holding characteristics, a means of fertilizer retention and to a lesser degree, fertilizer as it decays. The choice of materials will depend strongly

upon availability. In the Western states redwood compost and peat moss are most often used; in the South and Southeast, ground bark, rotten pine sawdust and leaf mold are more readily available as well as peat moss. Redwood compost and peat moss are highly recommended because they are slow to decay. Other considerations include the pH of the soil and the pH of the amending material. Small amounts of clay soil added to a sandy soil will also be beneficial in utilization of fertilizers.

In heavy, clay soils, porous and organic materials will be required to improve the drainage characteristics and aeration of the roots. The most usual amending materials are coarse sand, perlite, vermiculite and the organics listed above. Usually the addition of 1/3 to 1/2 of the total volume of amending materials will be found sufficient. Test the proposed mix for drainage. Agricultural gypsum is also very useful for “opening” compacted clay soils. Where large plantings are involved the entire soil area should be corrected. For smaller plantings, the backfill of the holes will suffice.

EXISTING PLANTINGS

Where plants have been established and the need is shown for soil amendment, far less can be done. If the need is serious one should consider transplanting or even bare rooting. A couple of less drastic measures will help. These include trenching around the plant and filling with amended soil, filling a series of "post holes" or earth auger holes. In all cases, these measures are performed at the drip line and are completed over a two year span, doing just half each year.

pH CONTROL

Since the ideal pH for most camellia species commonly grown is about 6.0-6.5, just slightly acid, an attempt should be made to idealize this factor when soil mixtures are prepared. The pH of commonly used soil additives is shown in Table 1. The pH of soil mixtures should not be tested until the mix has aged for 3 months or more. Where it is desired to lower the pH, soil sulfur should be added or peat moss may be added. Acid soils are best corrected by adding dolomitic lime. pH alteration is not a

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simple task so seek advice from your local agricultural agent. Approach pH changes cautiously and allow several months to pass before checking the results. pH control is vital for proper utilization of fertilizers.

FERTILIZATION

While soil preparation is the most important aspect of camellia culture, fertilization is the most controversial. Nearly every serious grower has his or her fertilization plan and most have changed from one to another a number of times. The important aspects to remember are that camellias are not heavy feeders, have roots which are easily burned by over fertilization, and that the time of fertilization is equally if not more important than the fertilizer used. The soil type, water supply and weather will also play important roles.

Two basic forms of fertilizers are available . . . organic and chemical; (soluble concentrates and granular). Both have advocates and possess advantages and disadvantages which are outlined below. The soluble chemical concentrates are suitable for both root and foliar feeding.

Since both organic and inorganic fertilizers are applicable to camellia culture the discussion below should help you decide which is best for you.

1. Organic fertilizers are usually low in mineral value and are bulky. They are also variable in analysis. (See Table 2) Chemical forms are available in an infinite range of concentrations and formulations.

2. Chemical fertilizers are available as well balanced blends whereas organic forms are seldom balanced though many are good sources of "trace" elements.

3. Organic fertilizers are slower to react and are temperature dependent for reaction. In cold weather they are of limited value. This is not true of chemical fertilizers.

4. Due to their lower mineral analysis, organic fertilizers are safer to use, seldom causing fertilizer burn or salts build-ups.

5. While the chemical fertilizers are quicker to react, being very soluble, they are also quickly leached from the root zone and must be replaced. Organic fertilizers are longer lasting.

6. Both fertilizer types are suitable for camellia culture though *C. saluenensis*

and the resultant *Williamsii hybrids* are fertilizer susceptible and organics only should be used. Several other "lesser" species show a similar sensitivity.

FERTILIZATION SCHEDULES

For both organic and chemical fertilizers the mode of application is the same. It should be cast on top of moist soil in a doughnut shape starting about half way between the trunk and the drip line and extending out 6-12 inches beyond the drip line. This should be well watered in but not worked into the soil. If a mulch is used, fertilize on top of the mulch; never under it for tender roots will be damaged.

Since a certain amount of delay occurs between the time of application and the absorption of all fertilizers, this must be taken into account when determining the application time. This is particularly important when organic fertilizers are employed. For chemical fertilizers of the granular form the delay time is usually from 2-4 weeks, for soluble types . . . a week or less and for organics over a month for most except in very warm weather.

The basic schedule used by many growers, including this author, consists of three major feedings. They are applied about 3-4 weeks before the major Spring growth cycle . . . usually in late March; the second about two months later and the third two months after the second. It is customary amongst many growers, particularly those primarily interested in showing, to apply a fertilizer which is low in nitrogen, i.e., 0-10-10 or 2-12-12 during the Fall and Winter months at monthly or bi-weekly intervals. Usually these are liquid feedings. If a dry form is used, one application in the Fall will

suffice. Never use high nitrogen fertilizers after the buds have set for this will force a second cycle of growth at the expense of bloom buds and will also make the plants more sensitive to cold.

The author uses a blend of 80% cottonseed meal and 20% dried blood for the first two feedings and pure cottonseed meal for the third. This is followed with liquid feedings during the Fall and Winter months of 2-10-10 at monthly intervals. The organic blend provides a fertilizer with the approximate analysis of 8-3-1. Dried blood is one of the fastest reacting of all organic materials and is high in nitrogen to aid the Spring growth.

Lime, once thought to be anathema to camellia culture is now recognized as a friend. Dolomitic lime is the only type recommended and provides both calcium and magnesium. Light annual applications, or as indicated by a check of pH, are to be recommended, especially in areas of acidic soils.

Though about a dozen minerals are recognized as essential to good plant growth, the three majors, nitrogen, phosphorus and potassium (potash) are utilized the most and are usually the only ones listed on analysis reports. It has become customary with many growers to apply iron in the Spring and Fall to enhance the bloom color. This should not be necessary if proper soil and fertilizer management is observed. Minor and micro (trace) elements, though vital to plant growth, should not be added unless a need is indicated by analysis or abnormal plant growth.

HELP SUPPORT AN HORTICULTURIST

TABLE 1
Typical Analyses for Organic Soil Amendments

Organic Amendment	Moisture Retention	pH	Organic Matter	Ash
	(% total volume)		(%)	(%)
Sphagnum peat moss	60-70	3.2-4.5	95-99	1-5
Hypnum peat moss	55-65	4.4-6.7	70-85	15-30
Reed and sedge peat	50-60	4.5-7.0	85-95	5-15
Woody peat	30-40	3.6-5.5	75-90	10-25
Sawdust	30-40	3.8-8.0	95-99	1-5
Ground bark	30-40	4.0-8.0	90-95	5-10
Compost	20-30	4.0-8.0	80-85	15-20
Leaf mold	20-30	4.0-7.0	50-75	25-50

TABLE 2
Average Analysis of Organic Materials

	Nitrogen % N	Phos- phoric Acid % P ₂ O ₅	Potas- sium Oxide % K ₂ O	Organic Matter % O.M.	Cubic Feet per Ton
<i>Bulky Organic Materials</i>					
Goat manure	2.77	1.78	2.88	60	70
Dairy manure	.7	.30	.65	30	55
Steer manure	2.0	.54	1.92	60	70
Horse manure	.7	.34	.52	60	75
Hog manure	1.0	.75	.85	30	60
Sheep manure	2.0	1.00	2.50	60	70
Rabbit manure	2.0	1.33	1.20	50	70
Poultry droppings	4.0	3.2	1.9	74	55
Poultry manure	1.6	1.25	.9	50	50
Seaweed (kelp)	.2	.1	.6	80	—
Alfalfa hay	2.5	.50	2.10	85	—
Alfalfa straw	1.5	.30	1.50	82	—
Bean straw	1.2	.25	1.25	82	—
Grain straw	.6	.20	1.10	80	—
Cotton gin trash	.73	.18	1.19	80	—
Winery pomace (dried)	1 to 2.0	1.5	0.5 to 1.0	80	—
Olive pomace	1.2	.8	.5	80	—
<i>Organic Concentrates</i>					
Dried blood	13.0	1.5	—	80	—
Fish meal	10.4	5.9	—	80	—
Digested sewage sludge	2.0	3.01	—	50	—
Activated sewage sludge	6.5	3.4	.3	80	—
Tankage	7.0	8.6	1.5	80	—
Cottonseed meal	6.5	3.0	1.5	80	—
Bat guano	13.0	5.0	2.0	30	—
Bone meal*	.	.	—	—	—
Castor pomace	6.0	2.5-3.0	.5	80	—

* There is a wide variation in the average percentages found in bone meal. Average found in analysis of 22 samples ran as follows:

	<i>Steamed Bone Meal</i>		
	Available Phosphoric Acid, %	Insoluble Phosphoric Acid, %	Total Phosphoric Acid, %
Nitrogen, %			
less than 1.00	12-14	14-16	12-14

All organic materials should be purchased on the basis of actual analysis. There is a wide variation in value due to moisture content, type of storage and other conditions. These values are only averages taken from official literature.

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Pruning And Disbudding

Pruning*

To prune properly, one must first learn to recognize the difference in the appearance of "good" and "bad" camellia wood. Walk up to one of your healthy specimen bushes and examine the twigs growing in its shaded interior; cut a few out and compare them with the vigorous shoots at the top of the bush. Notice the

following differences:

1. The twiggy growth from the interior or shaded areas will be of smaller diameter (B and C).
2. The top shoots will usually have two or three well-developed terminal leaf buds and lateral ones along the stem, while the other will have at best only one weak terminal bud and no lateral shoot buds.
3. Often the length of one year's growth at the top will equal that of

several years in the interior twigs. By close examination of any camellia branch you should be able to count the growth periods.

4. The color of the bark will show great contrast. That of interior twigs is dull brown or gray but the bark of vigorous apical shoots is shiny light brown.

5. Scale insects are usually more numerous on interior twigs.

With these five points in mind, go out and study the form of your plants until you can see at a glance those portions that should be removed. This ability can be gained only by actually working with your plants.

Before you start pruning operations, check over your equipment. You need a pocket knife, pruning shears, and a small pruning saw. The saw will be used for cuts too large for shears. Keep your tools sharp and in good working condition; it is impossible to do first-class work with third-grade tools. If your cuts are not smooth, check the shears for adjustment.

The ideally pruned camellia is one with an interior completely hollow and free of twigs and foliage, with lower limbs pruned clear of the ground. It may take some time to get your plants in this condition, so now is the time to start.

Most collectors have comparatively young but vigorous camellias, so we will first discuss their particular pruning needs. It is hard to realize that a fast-growing camellia requires this attention, but a careful examination will disclose much inferior wood. Look into the interior near the ground; there will probably be a few entirely dead twigs on the main branch. Remove them, making the cut next to the trunk. Do not leave stubs. Now look for twigs that are still alive but definitely detract from the plant; how to identify these weak twigs has been outlined previously. Work through the bush, removing the worst specimens first. If you are in doubt as to whether or not a twig or branch ought to come off, comparing the one in question with vigorous shoots at the top ought to show you.

Control of scale is closely tied in with pruning; you can see how scale is favored on branches near the ground and seems always to thrive on interior twigs. Removal of low branches and interior growth eliminates natural scale-breeding

* Taken from *The Camellia Journal*, Vol. 39, No. 2, May, 1984. See this issue for pictures, pp. 30-31.

areas and makes the oil-spray insecticides far more effective. It is practically impossible to eliminate scale by spraying if your plants are so thick that the spray will not penetrate to all parts or if there are branches so near the ground that the under leaf surface cannot be sprayed. A plant badly infested with scale must be drastically pruned or much of your spraying effort will be in vain. Watch for and remove deformed, curled leaves; they harbor much scale.

Many people hesitate to remove low branches in the belief that too many buds will be lost, but I find that flowers near the ground never amount to much because they are usually ruined by dirt splashed on them when it rains. Branches or foliage less than 12 inches from the ground may be considered too low.

The next step is to remove wood that will be no future asset although it is in good present condition. This sounds difficult, but it is rather simple in practice. As a general rule cut out branches that tend to grow inward, for they will certainly be shaded out in later years. Quite often a study of other branches above the one in question will reveal its future status; on each of these higher branches there will be many terminal and lateral buds that will themselves become full-fledged branches when growth starts. Thus when there is one branch now, many more will develop later, which will take up so much room that the twig under consideration will be shaded out. Under such conditions, remove it.

Restoration of an old camellia to vigorous growth can hardly be done without pruning, and severe pruning at that. When, through lack of attention and feeding for years on end, old camellias become a mass of long, stringy, knotty branches (see Fig. C) heavy feeding will do very little good unless this mass of poor wood is pruned out. A practical explanation seems to be that these branches have atrophied to such an extent that they cannot be made to put out new growth. Removal of these branches will force growth into new channels that will eventually dominate the plant. To prune an old camellia, examine each branch from the outer end and follow it toward the main trunk. Usually, somewhere between the tip and the trunk there will be a vigorous shoot — perhaps

small — starting out. Cut the branch off at this shoot, leaving the latter to break out and grow. If a plant is in such poor condition that good medial shoots cannot be found, the only thing to do is to remove a large proportion of the poor branches and wait to see which parts will put out new growth. Portions that fail to respond to this treatment should then be cut back further.

The death of camellias through loss of roots can often be prevented by timely pruning. Some roots are usually lost by being cut off or injured in transplanting, or by rotting from excessive moisture in the soil. When this occurs, the balance cannot support the top. The balance must be restored by the only possible means, which is to cut the top back to where the root system can support it. Most of the cases I have observed required the removal of one-half to one-third of the top. It sounds drastic, but it will save camellias. Never worry about pruning too severely, if so much is taken off that the roots overbalance the top, new growth will restore the balance.

Picking flowers, taking cuttings, and cutting scions are associated. In each case, the principles of good pruning should be kept in mind. Remember this: your bushes will not be harmed by taking off flowers, cuttings, or scions if it is done properly.

1. Flowers can be gathered by merely cutting from the stem; as no stem is lost there can certainly be no question of harming the bush in this instance. As a rule, flower buds do not form on the most vigorous shoots; they appear on the more mature wood.
 - a) If the flower is borne on a long stringy stem, as illustrated in Fig. C, take off the whole branch with the flower. The plant will be better off without it.
 - b) On more vigorous branches, cut the stem just beyond a leaf bud. If no such bud is present, cut the entire branch back to a fork. This is done because if a flower stem is cut back only to a leaf in the axil of which there is no bud, the stem will eventually die back to the nearest fork, provid-

ing an excellent site for fungus disease to enter the plant.

2. The above principles hold true with the taking of cuttings. Either take the cutting off at a lateral bud that will grow and take its place or cut the whole stem back to a fork if a viable bud is lacking.
3. Scions for grafting are usually gathered from the most vigorous growth of all, that at the top of the plant. These apical shoots generally have many lateral buds so it is an easy matter to leave one to replace what is removed.

When to prune? The time to start is now. If you wait until after the camellia blooms, you will be tempted to wait a little longer until you see what new growth appears; thus a year passes and no pruning has been done. Do not let the loss of a few buds deter you; think of the long-term gain.

How often is pruning necessary? It is necessary every year, every month, or in other words, whenever poor wood is discovered. Always be on the lookout for it.

The time will come when the camellia owner will be prouder of the condition of his plants than of the flowers they produce. It takes intelligence, skill, and hard work to keep camellias in good physical condition, but good flowers can be had by the most indifferent collector; bushes in sorry condition will sometimes bear superb flowers. This fact often gives the owner a false feeling of security. He reasons that he grows camellias for their flowers, and as long as he gets good flowers, why worry? By the time he realizes his plant is looking sad, it is often in such condition that very severe pruning is necessary, and several years may be needed for it to recover its original stature. Many people think their plants are too small to prune, but regardless of size, poor wood must come off.

Disbudding*

Disbudding is a common practice with most American growers, especially those who are exhibiting in shows. Disbudding accomplishes two things, primarily: it

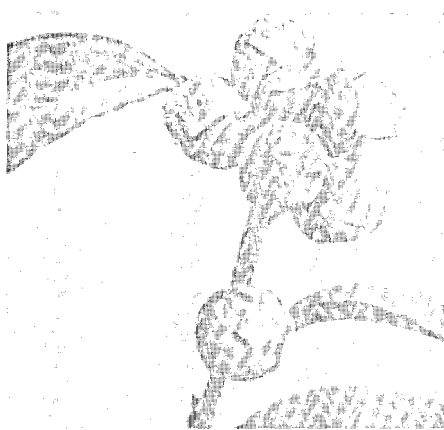
* Adapted from *THE CAMELLIA, Its History, Culture, Genetics, And a Look into its Future Development*; Feathers, David L., and Milton H. Brown. 1978. Pages 105-109.

concentrates the plant's energy on the development of fewer flowers; and it regulates the position of the blooms on the branch so that each may open unhindered.

Bud differentiation begins to show up in August when the plump flower buds become very distinct from the flatter, smaller flower vegetative (leaf) buds. Occasionally several flower buds appear at the tip and in the axils of the leaves near the tip (see Fig. 1). Each terminal or axil should be disbudded so as to have one flower bud. Leave the largest flower bud on one terminal and smaller buds on others so all do not open at the same time. The best way to remove buds is simply to twist them off. One should hold the stem in one hand while twisting off the bud or buds with the other.

There is more than one way of removing unwanted flower buds from a camellia. A very satisfactory method is to prune the camellias lightly in the summer, after the buds have formed.

Some camellias, notably *C. reticulata*, have a tendency to concentrate their bud set on the terminals of the branches instead of distributing them fairly evenly. In some cases this results in a mass of buds at the end of the twig and



Over budded branch — the terminal and lower bud should be retained and the other 4 removed.

necessitates drastic action.

In the case of the heavier bud setters, it is a fairly common mistake to start disbudding too early in the season, which simply results in another crop of buds replacing those removed. September 1 is not too early and bud removal may be continued until November 1 with ungibbed buds.

From the foregoing, it will be seen that disbudding is not something to be done indiscriminately but rather a matter of applied technique. It is not an absolute necessity, but is certainly a recommended practice to give the best results.

Germination should start within two weeks and become three inches high in 30 days. Some varieties and species are much slower.

After two or three leaves appear, the seedlings are ready for planting into individual containers in a light potting mixture. Weak fertilization should be applied weekly. When the weather warms up, the seedlings can be re-potted into 1-gallon containers using your favorite potting mixture.

Rotted cuttings. One of the most common methods of camellia propagation is by rooted cuttings. It is the easiest and least expensive method of reproduction, although not the quickest. Not all camellias root readily from cuttings, but with care many camellias can be rooted.

The cutting wood should be of the current season's growth after the stem has turned brown and should preferably be cut below the fifth node. The bottom two leaves should be removed leaving the eyes, from which roots will form in addition to the end of the cutting. A tapering cut at the base of the cutting will allow a greater cambium surface upon which roots will form.

The planting medium should be without nutrients as this causes the cutting to send out roots in all directions in an effort to locate them. A medium of 75% nursery sand and 25% peat has been shown to give good results. This medium should be watered well before using.

The container should be deep enough for at least four inches of soil and two inches of "head room." The leaves should not be in touch with the pane of glass (plastic or fiberglass) used as a covering to conserve moisture.

After preparing the cuttings, the cut end should be dipped in water and then inserted in a rooting hormone. Then each cutting should be inserted into a hole in the medium made by a nail or pencil point. Cuttings planted at a 45° angle instead of upright root more readily.

The cutting box should be kept in a moderately warm but protected environment. Filtered sunlight is ideal. Avoid temperatures over 85°F. Cuttings may be taken any time of the year after the new growth has hardened. The fall may be easier as the cuttings will be less subject to dehydration.

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Camellia Propagation

Camellias may be propagated both sexually and asexually. Sexual propagation (from seeds) produces a plant with the combined characteristics of its two parents. Growing a camellia from seed is an experience into the unknown as one never knows what the bloom will look like until the plant actually flowers. Asexual propagation (cuttings, air layers, and grafts) produces a plant genetically identical to the one from which it was taken. (In grafting, virus variegation may be transferred from the understock to the new plant, however.)

Seed propagation. Three elements important to fast germination of seed are water, heat, and light. Fast germination helps prevent rotting of seed. Sterilizing both seed flats and seed with a weak

bleach solution also helps prevent rotting.

The soil medium should allow water to drain freely while holding moisture adequately. Perlite is an ideal planting medium. Peat moss mixed with sand is also good. The flats should be filled with two to three inches of soil medium. Seed should be planted "eye" down and covered with about ¼ inch of the medium. After planting, the flat should be watered with a fine spray and covered with a pane of glass to retain moisture.

Bottom heat is helpful. The temperature should be held at about 70°F. Wired rubber mats can be obtained from a nursery or garden supply house for this purpose.

Lights such as Grow-Lux fluorescent tubes encourage germination. Lights should be kept on 10 hours each night.



Cleft grafting of camellias: (1) Scion, showing long, wedge-shaped cut and cross-section; (2) scion fitted in understock, (a) cambiums matched. Scion and understock secured by (3) tying with string or rubber bands. Point of union can be protected with (4) grafting wax or pruning compound, (5) plastic wrap, (6) tin can filled with sand, vermiculite, or similar material, or (7) mound of clean sand. Method of protecting grafts with (6) wide-mouthed glass jar and burlap or (7) wire frame and opaque plastics. (8) Young graft shaded with hamper to harden after jar or cover has been removed.

Grafting. One of the biggest thrills a camellia fancier can have is to see a new graft "take-off." Starting from a tiny bud, growth is very fast according to the size and vigor of the understock. Grafted plants grow more rapidly and produce flowers earlier than cuttings. Grafting is also useful for camellias that do not root rapidly.

Understock should be vigorous — growing plants having long terminal growth. These plants have a wide cambium layer and the ability to heal rapidly. *Camellia sasanqua* is often used as understock because it is resistant to the root-rot disease. There is no size limit on understock — anything from matchstick up to several inches in diameter can be

used. Pencil size to $\frac{3}{4}$ inch is preferable.

Grafting can be done any time of year except during the period of active growth in the spring. Commercial growers recommend the winter months of December-February.

Cleft grafting is the most popular method of grafting. (See Figs. 1-8) The stock should be cut off with sharp shears or saw about five to six inches above soil level with a sloping cut and trimmed smooth with a sharp knife. A vertical incision should be made about two inches down the side. Holding the slit open with a screwdriver or knife, a prepared scion should be inserted so that the cambium layers on the stock and scion match. The scion should be carefully trimmed and shaped so that the inside edge is thinner. A scion with three leaves is preferred. It is vital that the green cambium layers match. The graft may be held tight with a rubberband, waterproof string, or electrician's plastic tape. A jar or plastic bag is used to cover the graft and keep humidity high. It is desirable to cover the soil with an inch of sand. Callusing should start within a few weeks and in two months be firmly knit. When firmly callused, the jars can be raised very gradually and slightly. If wilting appears at any stage, the jar should be put back on until it ceases. This is the most critical phase of aftercare.

Air layering. Air layering is a good method of reproducing good sized plants in one year. Air layering may be done at any time of the year but the best time is in the early spring when the plants are beginning to grow. While there are several different techniques that are used in air layering, the following steps as outlined below have proven to be both simple and satisfactory.

1. On a healthy limb cut away a ring of bark about $1\frac{1}{2}$ to 2 times the diameter of the branch to be air layered. The branch may be in new growth if the wood has hardened off.
2. Eliminate all traces of the cambium layer (green tissue) by scraping lightly with a knife. Dust the exposed surface with a rooting hormone powder recommended for hardwood cuttings.

continued on page 18

Camellia Scions — Greenhouse Protected

GROUP NO. 5 — \$5.00

'Annabelle Fetterman'	'Dr. Dan Nathan'	'Happy Holiday'	'Judith Toomajian'	'Nuccio's Cameo'	'Sara Dunham'
'Bagby Hall'	'Dr. Jack Davis'	'Hilda Jamieson'	'Kaye Fuller'	'Parks Red Glow'	'Something Beautiful'
'Bethany Fatherree'	'Dr. Reeves Wells'	'Howard Dumas'	'Lacy Love'	'Paul Harkey'	'Spencer Walden'
'Bill Johnston'	'Dr. R. P. McDonald'	'Hulyn Smith, Var.'	'Margaret Bernhardt'	'Pleasant Memories'	'Stuart Watson'
'Bill LaRose'	'Ealon Magee'	'James McCoy'	'Margaret Davis Picotee'	'Prima Ballerina'	'Sweet Dreams'
'Charles R. Butler'	'Emma Gaeta, Var.'	'Jean Comber'	'Mary Elizabeth Ballard'	'Prime Time'	'Temple Bowen'
'Cherries Jubilee'	'Ernest McDonald'	'Jean Pursel Blush'	'Mary Kay'	'R. L. Brent'	'Tom Hoffman'
'Col. R. D. Hicks'	'Gene King'	'Jean Pursel, Var.'	'Mary Movich'	'Robert Fowler'	'Virginia Alter'
'Donnan's Dream'	'Gordon Howell'	'John Movich'	'Moonlight Bay'	'Roy Stringfellow'	'Winner's Circle'
'Dr. Alvin Johnson'	'Guy Rice'	'Jo Jo'	'Nell Watson'	'Rudolph'	

GROUP NO. 3 — \$3.00

'Al Gunn'	'Dee Davis, Var.'	'Hody Wilson'	'Little Cheeper'	'Nuccio's Ruby, Var.'	'Silver Cloud'
'Amazing Graces'	'Delancey'	'Hulyn Smith'	'Little Man Formal'	'Our Kerry'	'Snow Mitt'
'Ann Morrison'	'Donna Blair'	'Janet Smith'	'Little Michael'	'Pharaoh, Var.'	'S. P. Dunn'
'A. P. Fatherree'	'Dr. Clifford Parks, Var.'	'Jean Toland'	'L. T. Dees'	'Pride of California'	'Thomas E. Gilley'
'Arcadia'	'Dreamy, R & V'	'Jim Altfer'	'Lucille Harkey'	'Que Sera Sera'	'Tinker Toy'
'Ben Fatherree'	'Elise Winter'	'Judge Jackson'	'Margaret Hilford'	'Rachel Tarpay'	'Tom. Park Hill Blush'
'Betty Drews'	'Elizabeth Astles'	'Katie'	'Marie Mackall'	'Ray Watson'	'Tom. Dawn Bessie'
'Bob Sansing'	'Eugene Stockman'	'Kevin Murphy'	'Mary Stringfellow'	'Redwood City'	'Tom. Dawn Blush'
'Buddy Bills, R & V'	'Evelyn Ramirez'	'Lasca Beauty, Var.'	'May Westbrook'	'Robert's Jewel'	'Tom. Lisa'
'Cambria'	'George Brockman, R & V'	'Leila Gibson'	'Miss Santa Clara'	'Rose Bouquet'	'Vi Stone'
'Christopher Holman'	'Grace Albritton Blush'	'Lemon Drop'	'Mona Jury, Var.'	'Sara Oliver'	'Wobbo Boy'
'Courtney'	'Grace Albritton Starfire'	'Lipstick'	'Mrs. D. W. Davis Special'	'Shellie Rae'	'Woodford Harrison'
'Curtain Call'	'Harold Paige'	'Little Bo Peep'	'Nancy Reagan'	'Show Time'	'Zell Boyce, Var.'

GROUP NO. 2 — \$2.00

'Alabama Tide'	'Crimson Robe'	'Glowing Embers'	'Lilemac'	'Nuccio's Ruby'	'Shikibu'
'All American, R & V'	'Crystal City'	'Goggy'	'Lilette Witman'	'Oscar Elmer'	'Shuchuka'
'Allene Gunn'	'Delta Dawn'	'Gone Again Blush'	'Linda Gilmore'	'Our Betty'	'Southport'
'Ann Clayton'	'Descanso Mist'	'Han Ling Snow'	'Lion Head'	'Overture'	'Splash of Pink'
'Applause'	'Dick Goodson'	'Happy Days'	'Little Dixie'	'Papoose'	'Stacked Deck'
'Baby Face'	'Dolly Dyer'	'Harriet Salmon'	'Little Ginger'	'Patricia Ann'	'String of Pearls'
'Baby Pearl'	'Dolly Parler, Var.'	'Harvey Short's Finale'	'Lucy Stewart'	'Pavlova'	'Suzanne Withers'
'Betty's Beauty'	'Dolores Hope'	'Helen G.'	'Mandalay Queen'	'Pharaoh'	'Swan Lake'
'Black Knight'	'Dolores Jackson'	'High Roller'	'Mary Fisher'	'Pike's Peak'	'Tali Queen'
'Blue Bird'	'Dr. Brian Doak'	'Hishi-Karaito'	'Mary Love'	'Pink Dahlia'	'Ten Plus'
'Brother Rose'	'Dr. Clifford Parks'	'Honey Bee'	'Massee Lane, Var.'	'Pink Doll'	'Terrell Weaver, R & V'
'Bumble Bee'	'Dr. Harry Moore'	'Hopkin's Pink'	'Midnight'	'Pink Jewel'	'Timothy Gilley'
'Camellia City'	'Dream Boat'	'J. M. Haynie'	'Mona Jury'	'Pirouette'	'Tonya'
'Camelot'	'Elegans Champagne'	'Jean Pursel'	'Miss Rebecca'	'Purple Gown'	'Valentine Day, Var.'
'Cameron Cooper'	'Elizabeth Dowd Silver'	'Juanita Walker'	'Miss Tinytot Princess'	'Rebel Lady'	'Valley Knudsen'
'Campari White'	'Evelyn Poe Blush'	'Julia, Var.'	'Miss Tulare'	'Red Bird'	'Veiled Beauty, R & V'
'Capt. Rawes'	'Evelyn Poe Pink & Var.'	'Kathryn Funari'	'Mrs. D. W. Davis Descanso'	'Red Chief'	'Vi Henderson'
'Carter's Sunburst Blush'	'Feathery Touch'	'Kramer's Beauty'	'My Ernestine'	'Rickwood'	'Walker's Pink'
'Charlotte Johnson'	'Flossie Goodson'	'Kramer's Delight'	'Noble Pearl'	'Royalty'	'Waltz Time Supreme'
'Cissy Purvis'	'Four Winds'	'La Sandra'	'Notre Dame'	'Ruthie Pope'	'Warwick Berg, Var.'
'Confetti Blush'	'Frances B. Homer'	'Lady Laura'	'Nuccio's Jewel'	'Sabrina'	'Water Lily'
'Cornelian'	'Francie L. Surprise'	'Lady Velma, Var.'	'Nuccio's Pearl'	'San Marino'	'Westfield'
'Cornelia Walden'	'George Stewart'	'Lasca Beauty'		'Seville Square'	'William C. Noell'
'Corry Van Gasteren'	'Georgie Van DeCamp'	'Les Berg'		'Sheila'	

GROUP NO. 1 — \$1.00

'Allie Habel'	'Cinnamon Cindy'	'Floodrian'	'Junior Miss'	'McVey's Nuccio'	'Sawada's Dream'
'Alyson Pollard'	'Circuit Rider'	'Frances Morse'	'Jury's Yellow'	'Melinda Hackett'	'Shanghai Lady'
'Amabel Landsdell'	'Clark Hubbs, Var.'	'Francie L., R & V'	'Just Darling'	'Melody Shepherd'	'Silver Chalice'
'Angel Wings'	'Debbie'	'Full House Pink'	'Just Sue'	'Mike Witman, Var.'	'Snowman'
'Ann B. Brown, Var.'	'Demitasse'	'Funny Face Betty'	'Kathryn Hall'	'Mi Linda'	'Stacy Susan'
'Apollo 14, Var.'	'Desire'	'Garden Glory'	'Kitty'	'Mini Pink'	'Sugar Babe'
'Arch of Triumph'	'Diddy's Pink Organdie'	'Glen 40 Special'	'Kramer's Supreme, Var.'	'Miss Charleston, R & V'	'Taylor's Perfection'
'Betty Sheffield Coral'	'Dixie Knight Supreme'	'Gone Again'	'Lady In Red, R & V'	'Moonlight Sonata'	'Teen Age Queen'
'Betty Sheffield Dawn'	'Douglas Potter'	'Grace Albritton'	'Laura E. Greggs'	'Mouchang, R & V'	'Tiffany, Var.'
'Betty Sheffield Dream'	'Dr. Lilyan Hanchey'	'Granada, R & V'	'Lemon Honey'	'Mrs. George Bell'	'Tiny Me'
'Betty Sheffield Supreme'	'Drama Girl, Var.'	'Grand Prix'	'Lerind'	'Nuccio, Var.'	'Tiny Princess'
'Betty Sheffield White'	'E. G. Waterhouse, Var.'	'Grand Slam'	'Little Slam, Var.'	'Nuccio's Gem'	'Tom Knudsen'
'Black Tie'	'Easter Morn'	'Guy Lennard'	'Little Susie'	'Pearl's Pet'	'Tom Thumb'
'Blond Betty'	'Ed Combatalade'	'Gwenneth Morey'	'Look Again'	'Petite Rosine'	'Tomorrow, Var.'
'Bon Bon'	'Edith Hall'	'Helen Bower'	'Louise Hairston, Var.'	'Pink Frost'	'Tom. Crown Jewel'
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3. Cover the ringed area with a handful of presoaked sphagnum from which the excess water has been squeezed. Wrap this tightly with medium weight plastic and secure with twist ties above and below the ball of moss. Cover this ball with a square of aluminum foil.
4. Air layers started in the early spring have usually formed roots by fall or late summer. Feeder roots will be visible through the plastic.
5. When the roots are visible through the moss cut the limb from the mother plant with sharp clippers at the bottom edge of the ball of moss. Remove plastic.
6. Do not remove the moss as it will damage the tender roots. Plant the air layer just as any other plant treating the ball of moss as a ball of roots.

ACS

Diseases of Camellias

LUTHER W. BAXTER, JR.

Department of Plant Pathology and Physiology, Clemson University

Camellias are a healthy lot when we compare them to tomatoes, tobacco, clover, apples, peaches, and dozens of other cultivated crops. Camellias, like other living organisms, are highly variable. Camellia cultivars 'Pink Perfection', 'Debutante', and 'Ville de Nantes' differ to such a degree that even members of the population that know little about camellias can recognize the differences. In addition to these obvious differences camellias differ greatly in their response to attacks by the organisms (pathogens) that cause disease. They also differ in their response to adverse environmental factors. These differences occur among the various Camellia species as well as among the cultivars within a species and the hybrids between species. Just as camellias vary among themselves, the pathogens also vary. For example, the well-known fungus that causes dieback, canker, and graft failure in camellias, *Glomerella cingulata*, is highly variable. One form of this fungus causes bitter rot of apple, and does not affect camellia at all. Other forms attack camellia, some forms being only weakly pathogenic (the ability to cause disease) while other forms are highly pathogenic. The virus that causes camellia yellow mottle also varies widely. Some forms cause severe leaf mottle and others very little leaf mottle. On some cultivars one form may cause severe mottle while on other cultivars this same form may cause little or no mottle. These virus forms or strains also may vary greatly in the

amount of flower variegation that they cause. The point to get clearly in mind is that all biological systems vary, which is another way of saying they are adaptable.

Dieback; root rot, caused by the fungus *Phytophthora cinnamomi*; flower blight, caused by the fungus *Ciborinia (Sclerotinia) camelliae*; and flower and leaf variegation caused by the camellia yellow mottle virus are discussed here in some detail.

Dieback

The camellia disease commonly referred to as dieback is caused by a special form or strain of *Glomerella cingulata*, a fungus that can be grown easily in the laboratory. We use the proper or scientific name of the fungus (*Glomerella cingulata*) because it is the same in all languages; whereas the name "camellia dieback fungus" is English and the fungus has different names in French, Italian, Japanese, Chinese, German, etc. This fungus usually is a wound parasite and causes 1) twig blight that later develops into cankers, 2) graft failure, and occasionally, (3) leaf lesions or spots. The fungus usually enters through camellia leaf scars at the time the leaves fall naturally, particularly during rainy weather. This fungus is a typical anthracnose organism, which means that the spores (seed) are produced in specialized structures (sexual stage, a perithecium, and the nonsexual or asexual stage, an acervulus). The spores of the more typical

stage, the nonsexual or acervulus stage, are spread by rain; the raindrops hit the masses of spores and the spores from the spore-laden droplets (raindrop that breaks up after impacting on the leaf or stem in this case) can germinate and enter leaf scars on twigs and branches. Usually the third-year leaves are the ones which drop off and thus the branches may be pencil size or larger. Wounds created by a lawn mower, cultivating implements, falling branches, insects, or man (such as pruning wounds) are also subject to infection by *G. cingulata*. Only camellias are affected naturally by this fungus.

G. cingulata can be isolated in the Deep South from apparently healthy camellia buds, which Gill found in 1953 (*American Camellia Yearbook* 1953) and we have confirmed many times since then. It can also be isolated from active cankers and graft failures. *G. cingulata* is not the only fungus that can be isolated from apparently healthy camellia vegetative buds. We have not studied flower buds. There are many fungi which can be isolated. The two most common ones, other than *G. cingulata*, are *Pestalotia* sp. or spp. usually *P. guepini*, and *Epicoccum* sp. or spp. When one inoculates (makes a knife wound, adds the fungus and maintains favorable conditions for infection) camellia plant infection (disease development) occurs only on those to which *G. cingulata* was added. Camellias wound inoculated (usually we use *C. sasanqua* seedlings) with *Pestalotia* sp. and *Epicoccum* sp. healed as quickly and thoroughly as did the controls (wounded but not inoculated). We have made this test many times.

One thing that should be stated about the sexual stage (*Glomerella* stage) is that when the fungus goes through the sexual stage it can change by hybridization. We know that the sexual stage of camellias (seed) form plants (seedlings) that are neither like their parent nor like one another (siblings), but cuttings or grafts, other than when they become virus infected, are all identical. Sexual and asexual reproduction are the same in fungi, sexual reproduction giving rise to hybridization which provides an opportunity for variation to occur.

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continued on page 20

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say that any 10 cultivars of *Camellia japonica* may respond one way to *G. cingulata* isolate number one, and in an entirely different way (or the same) to another *G. cingulata* isolate.

Overall, it has been shown that *G. cingulata* is more severe on *C. reticulata* and *C. sasanqua* than on *C. japonica*. We are most anxious to test a number of the hybrids, but cost has been a limiting factor up until now.

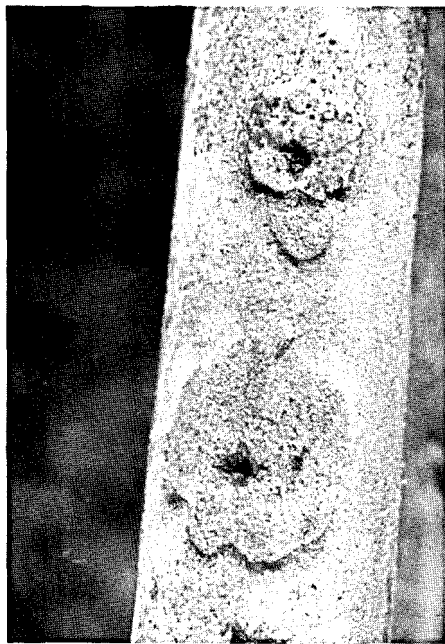


Fig. 1. a. Cankers on *C. sasanqua* stem (natural).



Fig. 1. b. Canker on *C. sasanqua* Kanjiro bought from Nuccio in California; note dead tissue where cut has been made.

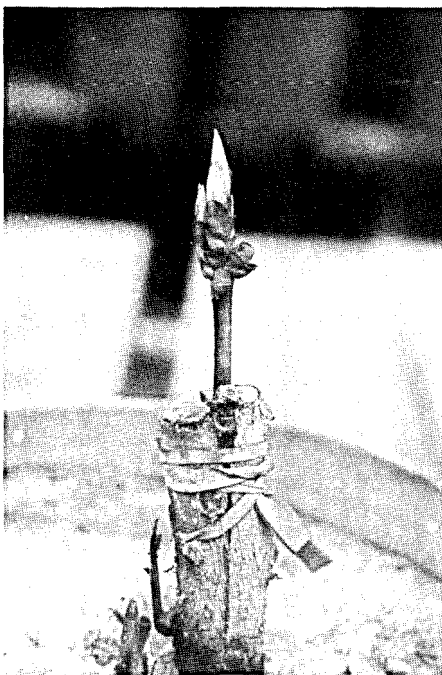


Fig. 1. c. Death of *C. japonica* graft onto *C. sasanqua*.

Many control measures have been studied but reproduction by either grafting or cuttings can now be done very well by soaking them in benomyl (sold as Benlate by du Pont) at the rate of 1 tablespoonful/2 gallons of tap water, for 30 minutes before "setting" or "sticking." This simply prevents infection of the cut surfaces by any fungus spores that might be present. More than likely other fungicides such as Daconil 2787 or Captan would also work but since Benlate does so well, and since we have experienced no resistance of the fungus to Benlate, it seems of little value to change.

Cankers have been known to heal sometimes but *C. sasanqua* plants that are 10 feet tall may die suddenly several years later. It is probable that the fungus was active throughout the time but the fungus was slowed down by the plant. The death is usually sudden, the plant being seemingly healthy until it dies. On other plants, after the cankers have apparently healed, the fungus can be isolated and it is capable of killing young plants of *C. sasanqua*. In general, the larger the stem, the longer it takes for infection (in the form of cankers) by *G. cingulata* to kill the stem beyond the canker. The tissue distal to the canker is usually free of infection.

If cankers occur on secondary or tertiary branches then prune them out. Only

discolored wood is infected. If it is a young plant and the canker is on the main trunk, cut it off below the canker and allow it to come back (cut off in April). Energetic and hopeful optimists can surgically remove all of the dead (discolored) wood and then splint the stem to keep the plant from breaking over.

Symptoms similar to dieback may be caused by other things, such as winter (cold) injury, or root rot caused by the water mold fungus, *Phytophthora cinnamomi*. This is a contagious disease in which the roots are rotted but the above-ground stems are not infected.

Root rot

The camellia root rot fungus, *Phytophthora cinnamomi*, attacks only the roots. This pathogen is easily carried from place to place on camellia roots or on the roots of a large number of other plants, such as rhododendron, Lawson cypress, and many other ornamental shrubs and trees. Many *Camellia japonica* cultivars are susceptible to root rot. While certain *C. japonica* cultivars, such as 'Blood of China', are very susceptible to root rot, others, such as 'Pope Pius IX', can only be affected under certain environmental conditions. Normally we think of poorly drained soils as contributing to a buildup in population of *P. cinnamomi* spores. Unfortunately, shortleaf



Fig 2. a. Close-up of root rot on *C. japonica* caused by *Phytophthora cinnamomi*.



Fig. 2. b. Healthy *C. sasanqua* growing near (a) above.



Fig. 2. c. Root rot on *C. japonica* alternate rows are grafted onto *C. sasanqua* (healthy) and the other row grafted onto *C. japonica* (diseased).

pine (*Pinus echinata*), the common pine canopy used for camellias in the Clemson, SC area, is susceptible to little leaf, also caused by *P. cinnamomi*. Thus, planting *C. japonica* under shortleaf pine increases the chances for root rot. Once *P. cinnamomi* infests the soil, it may survive for long periods in the soil because it can attack such a wide variety of plants. It is devastating to avocados, for

example, in California soils. Generally speaking, high mineral soils — those low in organic matter — and those that are poorly drained — give the most trouble to *C. japonica* cultivars growing on their own root system.

The fungus is easy to grow in culture although it is difficult to isolate from diseased camellia roots because, as the roots are killed, they (the dead roots) are invaded by many fungi and bacteria that are scavengers. Typically, to isolate this fungus, a bait, such as pears or apples, is used. A combination of soil and roots from suspect camellia plants is placed into a hole punched in the fruit. The apple and/or pear fruit is allowed to incubate for about a week and isolations are made from infected (discolored) tissue onto a proper medium, such as carrot juice agar, for the growth of *P. cinnamomi*. We are fortunate to have Dr. W. H. Ridings, who is very knowledgeable about this group of fungi, on our staff here at Clemson; thus it is relatively easy for us to get this plant pathogen (cause of disease) identified with certainty.

Three approaches to control exist. 1) Use *C. japonica* plants grafted onto *C. sasanqua* or *C. oleifera* stock, which gives complete protection indefinitely; 2) use vigorous fast-growing cultivars, such as 'Debutante', 'Professor C. S. Sargent', or 'Mathotiana'; and 3) use any *C. japonica* cultivar and then use metalaxyl (trade name Subdue® put out by CIBA-GEIGY Corp.) as directed. Subdue® is a systemic fungicide that is used as a soil treatment. When using the 2EC (emulsifiable concentrate, 2 lb. active material per gallon), add 1 teaspoonful/5 gallons of water and apply 1 gallon to the soil under each plant ½ to 1 inch in diameter every 3 months when they are planted outside (March, June, September). The last system is perhaps the least effective and most objectionable since it is costly and troublesome if you have more than 50 to 100 plants.

In colder areas or when severe cold occurs before plants are adequately hardened, *C. sasanqua* is more cold sensitive than *C. oleifera*. However, at the present time, *C. oleifera* is difficult, if not impossible, to purchase locally. They can be ordered from Nuccio's Nurseries, P. O. Box 6160, Altadena, CA 91001.

Perhaps, with all three techniques for control as listed above, one should do whatever is necessary to improve drainage, such as adding soil or gravel, organic matter, or tile beneath (2½ to 3 feet) the root zone. An entirely different type of control is exclusion, which simply means to keep the pathogen out if you don't already have the problem. As you know, you have different kinds of weeds in different areas and so it is with soil-borne fungi. In other words, this fungus is not a scavenger and thus it is not universally present. *Phytophthora* literally means plant destroyer and certainly *P. cinnamomi*, which was first described from cinnamon (Genus *Cinnamomum*), and it will certainly destroy *C. japonica* plants on their own roots if it is present in the soil where camellias are growing.

Camellia flower blight (CFB)

CFB is another fungus disease of camellias, but it occurs only on the flower and causes no damage to the rest of the plant. If camellias, especially *Camellia japonica*, *C. reticulata* and *Camellia* hybrids, are raised only for the flowers (which I do not wholeheartedly accept) then this can be, and often is, a devastating disease. It usually occurs only in the "camellia spring", although late in December one can sometimes find diseased flowers when camellias happen to bloom so early. "Camellia spring" is defined as the usual blooming period for the majority of camellia cultivars such as 'Betty Sheffield Supreme'. Fall flowering *C. japonica* cultivars, such as 'Daikagura' and fall blooming species, such as *C. oleifera*, *C. sasanqua* and *C. sinensis* escape infection. So far as is known all camellia species and cultivars are susceptible to CFB. It is not unusual to have 60 to 70% of all flowers opening in February and March to be affected. Of the three major fungus diseases of camellias, dieback, root rot and CFB, CFB spreads more efficiently because the spores (and this fungus has only the sexual spore stage, ascospores) are wind-borne, whereas in *Glomerella cingulata* (the dieback organism) the spores are spread by splashing raindrops and in *Phytophthora cinnamomi* (the root rot organism), spores and other fungus parts are spread by running water (water that erodes some of the soil and carries it away) in which the fungus is present.



Fig. 3. a. Sclerotia of camellia flower blight organism (the survival stage).



Fig. 3. b. Camellia flower blight.

The significance of air-borne ascospores is that neighbors, who live several hundred meters (39.37 inches per meter, a little more than an English yard) away, can have the pathogen fruiting in their yards and spores will be blown throughout the neighborhood. If the spores land on one of your open camellia flowers, and the weather conditions are satisfactory (cool and moist), then you too will have CFB, regardless of the sanitation measures practiced. It is most likely that you will have far fewer diseased camellia flowers if you control CFB in your camellia garden. However, it is most unlikely that spores of the CFB fungus will be carried by the wind in a viable state for more than a mile or so, and thus there

is no danger in natural spread of this fungus, for example, from Macon, Georgia, to Masee Lane (near Fort Valley, Georgia), a distance of at least 20 miles.

The fungus survives from camellia flowering season to camellia flowering season *only as sclerotia*. Sclerotia are hard masses of fungus material that are covered by a black rind. They vary from pinhead size up to more than a centimeter ($\frac{2}{5}$ inch) in diameter. They are formed only on diseased camellia flowers (CFB) before the flowers dry up on the ground. During excessively hot, dry weather, as may occur in late March or April, infected flowers may not support sclerotial development, particularly if the diseased flowers are up off the ground, such as on a pine needle mulch. While I have no data to support this statement, it has been observed that flowers that fall with the calyx and pedicel intact, provide a greater chance for sclerotia to form than if these other parts (calyx and pedicel) remain attached to the plant when the diseased flower falls. Lodged, diseased, camellia flowers can support sclerotial development in the CFB fungus as can single diseased petals of the shattering type, such as the cultivar 'Alba Plena.' However, single petals tend to dry out more quickly than flowers that fall intact (all petals clinging together, the flower termed a gamopetalous corolla). However, under very favorable conditions single diseased petals can support the formation of sclerotia which are capable of germination.

The sclerotia that formed, for example in 1984, may germinate in the "camellia spring" of 1985, 1986, 1987, or later. They germinate by sending up a stipe (stalk) which, when it reaches the surface and is exposed to sunlight, ceases to elongate and at its top a small (less than $\frac{1}{2}$ inch but more likely $\frac{1}{4}$ inch diameter, or less) disc-shaped, pine straw-colored, fleshy object, termed an apothecium, forms. The spores are formed only on the top surface of the apothecium and, when the spores are ripe, they are discharged forcefully into the atmosphere where they are caught by air currents and distributed at random. A single apothecium may discharge millions of spores and a single sclerotium may produce one to several apothecia. Thus, this fungus is a prolific spore former.

Each infected flower can form one or more sclerotia but usually there is only one, which is usually at the base of the flower. After the spores land on camellia flowers two or three days may pass before symptoms appear, but, if the infected flowers are cut and taken inside where it is warm (about $21^{\circ}\text{C} = 70^{\circ}\text{F}$), symptoms (brown spots) will usually appear within a day and the entire flower, or at least a streak of diseased flower tissue reaching to the base, will be discolored within 2 to 3 days. The time period from symptom development until sclerotial development, may require 10 to 21 days, depending on temperature; the higher the temperature, up to a point, the quicker sclerotia are formed. During the course of a year, the rest of the flower (other than that used in sclerotial development) decays, leaving on the ground the black sclerotium which usually gets covered up by falling pine needles, by soil being splashed by rain, or by birds scratching. At any rate, the newly formed sclerotia remain there intact until at least the next "camellia spring" when the cycle starts again.

Long distance spread is by moving camellias that have infected flowers on the plant or in the pot in which the plant is growing, or as sclerotia in the pot in which the camellia is growing or on or in the soil of balled and burlapped camellia plants. However, diseased camellia flowers can drop in pots with other shrubs or be balled and burlapped on the other plants, or sclerotia may wash down the hill or be scratched by birds and then be balled and burlapped with other plants.

Camellia flowers that are given to people by friends and taken home, may be thrown on a composting pile where sclerotia will form. If there are camellias in the yard or in the neighbors yard, spores can be carried to them during the fungal fruiting period. The maximum number of spores released by the fungus usually coincides with the time when the maximum number of camellia cultivars are blooming. All camellia flowers are susceptible.

Control of CFB

1. If you don't have it, keep it out (exclusion) by the following method:
 - a. Buy only bare rooted plants that are not blooming. (Unfortunately

the sclerotia can hitch-hike on other plants if the diseased camellia flowers fall under a ligustrum plant, for example.)

2. If you have the fungus in your yard then apply the following control measures:

- a. When practical, pick up and destroy diseased flowers including shattered petals;
- b. Use gibberellic acid and force fall flowers when the fungus is *not* active;



Fig. 4. a. *C. japonica*



Fig. 4. b. *C. sasanqua*

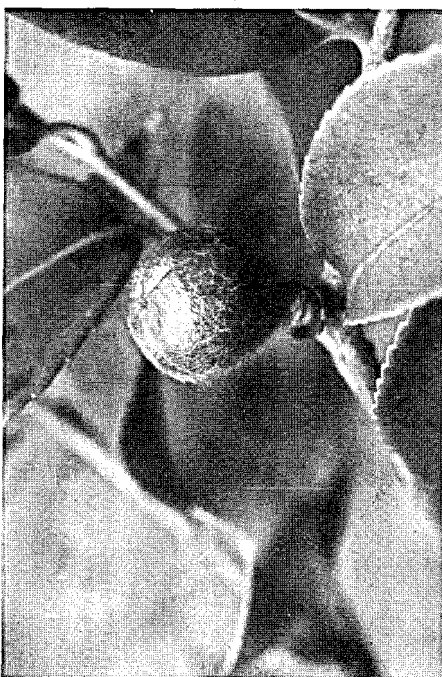


Fig. 4. c. Seedpod of *C. sasanqua* (virus does not go through the seed)

- c. Apply plastic under camellias so that the sclerotia cannot get a stipe up to the sunlight;
- d. Leave space between plants so you can get around them and prune them up high enough so you can pick up fallen flowers;
- e. Thin plants so spray (Bayleton) material will reach all parts of the plant; (Dr. Holcomb at LSU gets fair control of CFB with two applications 1 to 2 weeks apart; apply at the beginning of the spring flowering period.)
- f. Apply PCNB as directed on the package to the soil 4 to 6 weeks before the plants start to bloom;
- g. Encourage your neighbors to follow this same program.

Virus variegation in camellias

There are two general types of variegation in camellia foliage and in colored camellia flowers. Most, if not all, of the irregular leaf and flower variegation is caused by a virus, while the more regular patterns are of genetic origin (that is, under gene action, such as 'Herme' or 'Lady Van Sittart'). Virus on camellia is generally systemic, meaning that it occurs throughout the plant (roots, stems, leaves, and flowers) but, generally, if not always, the seedlings derived from seed of virus-infected plants are free of virus. While recent reports reveal that there are

insects in parts of the world that can transmit this virus from diseased to diseased plants or from diseased to healthy plants, so far we have not noted this type of spread in the United States. Plakidas (at LSU during the 1950's) studied virus variegation thoroughly and accurately for there have been no conflicts with his reports when his experiments have been repeated.

It can be started with reasonable accuracy that virus causes no damage in the grafting capability of camellia. We have done 300 grafts onto different stock (*C. japonica*, *C. sasanqua* and *C. oleifera*), half the scions (10 cultivars) with virus and half the scions without virus. There were no detectable differences in either of 2 years of this study. This year (December grafting) will finish this study. Just how much damage is caused to plant vigor is uncertain, but similar studies with other viruses on other plants have revealed a general reduction in yield, as in potatoes for example. With potato virus X, the so-called healthy potato virus, reductions of about 10% are normal. With other viruses growth reduction may be much greater than this. Such differences are often attributable to other things, such as water, fertilizer, or position in the garden so that sun or cold injures variegated leaves, etc.

There are different strains of this virus, which means that they (the virus strains) have different genes that govern the virus performance. One virus strain may cause very mild symptoms in the flower of 'Ville de Nantes,' for example, while another strain may cause much variegation. Occasionally the cultivar name will carry a connotation of the amount of virus variegation, such as adding the word *Special*. Also, camellia cultivars may be listed as 'Clarise Carlton var.' or 'Adolphe Audusson var.,' for example, to indicate a variegated form of that cultivar.

One thing to remember is that the virus does not create anything, but rather, destroys pigments, such as chlorophyll in the leaves or anthocyanins in the flowers. Thus, a white flowered cultivar, such as 'Silver Cloud' or 'Lulu Belle,' will not show any virus symptoms on the flowers, but, depending on the virus strain, may or may not show leaf symptoms (irregular chlorotic blotches).

How does the virus spread since it does not go through seeds and, in the United States, no vector has been established? The virus is spread by means of asexually propagating camellia plants. For example, if cuttings or scions are taken from a virus-infected plant, the rooted cuttings and grafts will be infected since the virus is systemic within the plant. Surely in its native country (Japan and China) some camellias are infected by virus naturally (see Docteur Jean Creze's article ACJ, May 1984, pp. 14-15). He reports the work of the well-known Indian plant pathologists (D. C. Sharma and S. P. Raychaudhuri) from New Delhi, India — Plant Virus Research Station, Kalimpong and Indian Agricultural Research Institute) who were able to show transmission of this common camellia yellow mosaic virus by the aphid, *Toxoptera aurantii*. This explains how this virus could survive in nature long before man helped the virus spread by asexually propagating camellias by cuttings and grafting.

In a graft, a partial union may form between scion and understock (for example *C. sasanqua* seedling) and, if a partial union occurs and then the scion dies for some reason, then the stock is infected. If cuttings or scions are now taken from the infected stock most all scions and cuttings will be infected. Also, occasionally, natural root grafts between adjacent plants will allow transmission of the virus from an infected plant to a noninfected plant through the roots. In this country, at least, man is the culprit for transmission of camellia yellow mottle virus from camel-

lia plant to camellia plant. Sharma and Raychaudhuri also reported transmission of camellia yellow mottle virus from *Camellia japonica* to *Duranta plumieri* Jacq., a plant in the family Verbenaceae. Thus this virus no longer can be considered to be exclusively limited to the family Theaceae (Camellia family).

It should be kept in mind that some people prefer the virus-variegated red flowers and thus they deliberately spread the virus. There are no known statistics to reveal whether or not the virus does any appreciable damage except it has been established that heavily mottled leaves

are more susceptible to sunburn and coldburn than non-virus-infected (healthy) leaves on camellias of various species.

Control

Use either *C. sasanqua* or *C. oleifera* seedlings for stock when grafting and use known virus-free plants to get cuttings or scions.

ACKNOWLEDGMENTS

Appreciation is expressed to Dr. W. M. Epps for critiquing the manuscript and to Mr. Dave Lewis for the photographs.

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Insects And Pests*

Scale Insects. Damage caused by scale insects is usually serious, especially when their presence is not recognized until the population is heavy. If treatment is neglected, it may be difficult to prevent the loss of part or all of the plant.

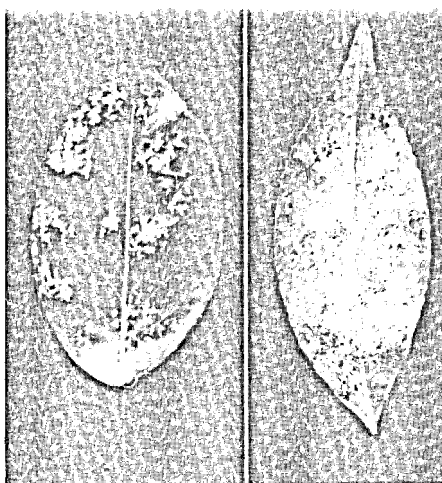
Scale insects are so different from most insects they are not always recognized. They have sucking mouthparts and feed on plant juices. Generally they are quite small. Heavily infested plants appear unhealthy and produce very little new growth. The foliage develops chlorotic areas and may drop. These insects are divided into 2 groups: armored scales and soft scales.

Armored Scales. Although many kinds of armored scales attack camellias, they are similar in habits. These insects secrete a waxy, protective covering which is not an integral part of the insect's body. This protective covering is called the scale. Adult females vary from $\frac{1}{12}$ to $\frac{1}{8}$ inch in length. Adult males are seldom observed. Examples of armored scale insects that attack camellias are: Florida Red Scale (*Chrysomphalus aonidum* L.), Tea Scale (*Fiorinia thea* Green), Oyster Shell Scale (*Lepidosaphes ulmi* L.), Camellia Scale (*Lepidosaphes camellia* Hoke), and Greedy Scale (*Hemiberlesia rapax* Comstock).

Soft Scales. Unlike the armored scales, in the soft scales the waxy secretion that comprises the scale is an integral part of the insect's body. Some of these scales are covered with a waxy, cottony material while others are naked. Soft scales vary considerably in size and shape; some are flat while others are almost spherical. They are larger than armored scale and vary from $\frac{1}{12}$ to $\frac{1}{3}$ inch in length. Usually the eggs are laid underneath the female and hatch in 1-3 weeks. Eggs per female range from 100-1000. Some scales give birth to living young called crawlers. Examples of soft scales are: Brown Soft Scale (*Coccus*

hesperidum L.), Hemispherical Scale (*Saisettia coffeae* Walker), and Cottony Camellia Scale (*Pulvinaria floccifera* Westwood).

Petroleum oils such as Ortho® Volck oil spray, are effective against scale. The spray should be applied in the fall prior to blooming and in the spring after blooming. As a general rule, apply no more than 3 times per year with at least 60 days between sprays. Oils are compatible with other insecticides. Also registered for use are Orthene®, Cygon®, Sevin®, and malathion.



Camellia leaves infested with tea scale. Left, top side of leaf showing discoloration; right, underside of leaf showing scale.

Mealy Bugs. Mealybugs are oval, elongated, and usually covered with a mealy or cottony waxy secretion. The mouthparts of these arthropods are threadlike and often longer than the body. There are over 300 species that vary widely in size. Young mealybugs are active crawlers while adult females are slow moving. Males are rarely seen. Females lay masses of eggs in white cocoons or give birth to living young. Mealybugs excrete large amounts of honeydew which causes the leaves to become shiny and sticky and serves as a medium for sooty mold.

Light oils are effective against mealybugs. Other registered insecticides are Orthene®, Cygon®, and malathion.

Spider Mites. Spider mites are among

the most serious pests of ornamentals. Because of their small size and habit of feeding on the underside of leaves, they are often undetected until plant damage is obvious. The needlelike mouthparts are used to puncture the tissue and a speckled appearance results.

Spider mites have soft bodies less than $\frac{1}{50}$ inch in length. Each female may produce 50-100 eggs.

Examples are Southern Red Mite (*Oligonychus ilicis* McGregor), tea red spider mite (*O. coffeae* Nietner), and the twospotted spider mite (*Tetranychus urticae* Koch). A single spray of acaricide (miticide) in mid-May usually prevents severe injury.

Camellia Bud Mite (*Cosetacus camelliae*). These mites are so small they are practically invisible without a hand-lens or microscope. They occur under the scales of vegetative and flower buds. Flower buds with heavy infestations show brown edges on the bud scales early. If left unchecked, the buds turn brown and drop before blooming.

Thorough spray control is essential to obtain good control of these mites. Diazinon® is often recommended for control.

Aphids. Aphids, or plant lice, are well known insects that infest nearly all types of plants. They are commonly found in colonies on the shoots of new growth, but may also be seen on stems, buds, and under leaves. They injure plants by sucking their juices with a long beak. Aphids also excrete honeydew which promotes sooty mold.

Aphids have soft bodies $\frac{1}{12}$ to $\frac{1}{8}$ inch in length and are colored greenish, yellowish, pink, purplish, brown, or black. Most species may be winged or wingless.

Aphids are attacked by a large number of natural enemies including ladybird beetles and lacewing larvae. Aphids are relatively easy to kill although repeated sprays may be necessary. Materials recommended include Orthene®, diazinon, Cygon®, Metasystox®, and malathion.

* This article was adapted from "Arthropod Pests of Camellia Spp.," 1983, *The Camellia Journal* 38(3):6-11. For more details see this article.

Pesticide regulations vary from state to state. It is best to check the pesticide recommendations in your state before making any applications.

DIME A DAY For Camellias

Pesticide Use and Selection

PAUL BOCH

Agricultural Biologist

County of San Diego, California

The present day usage of the term *pesticide* connotes a much broader concept than that which is generally understood. A pesticide is any substance intended for preventing, destroying, repelling or mitigating any pest as well as any substance intended for use as a plant regulator* or defoliant.** The term "pest" includes insects, rodents, nematodes, fungi and weeds. The home gardener is usually concerned with the control of insects and fungi encountered in his garden.

To combat insect pests successfully it is important to know something about the manner in which insects develop and feed. Insects normally hatch from eggs laid by adult females and pass through several stages during their development. Aphids, plant bugs, leafhoppers, thrips and grasshoppers hatch into a form known as a nymph. The nymph resembles the adult except for its smaller size and the lack of wings. On the other hand, moths, beetles and flies hatch as a worm-like form called a larva. After the larva has grown to full size, it changes into an inactive form, the pupa. It is from the pupa that the adult emerges to begin the life cycle once again. The life span varies greatly with different species of insects. Some develop from egg to adult in a few weeks or even days while others may require a full year . . . or some even several years. Plant damage may occur during one or more stages of the insect's life cycle.

Insects can be divided into two main groups depending upon how they feed. The chewing insects bite off and swallow portions of the plant tissue. They may devour parts of or whole leaves or flowers or they may bore into stems or feed upon the roots. Sucking insects have beak-like mouth parts which are used for piercing the plant tissue and sucking the plant juices for food.

Not all insects encountered in the garden are injurious. A number of species help us by destroying pests. These beneficial insects are generally divided into two groups: the predators and the true parasites. The predators prey upon and devour other insects. Examples of these are the ladybird beetles (lady bugs), assassin bugs, the praying mantis and the larvae of syrphid flies and lacewing flies. The larvae of parasitic insects live in or on the eggs or bodies of other insects; which they destroy. The adults of most parasites are tiny wasp-like insects or small flies.

There are four main steps in controlling pests.

1. **Observation** — A skilled eye is at least as important to a gardener as is a green thumb! Frequent visits to the garden and close observations often allow the gardener to spot a problem before real damage occurs. The most obvious damage to spot is from chewing insects though it may take some time to identify the culprit. The insects with piercing/sucking mouth parts are not always as easy to spot. Many are also very small. Aphids cause curled and distorted leaves which will later turn a rusty color. The sucking and rasping action of thrips dries the edges of the sepals and is responsible for much of the blasting of buds. Scale insects are usually found on stems and undersides of leaves. They usually excrete quantities of honeydew, as do aphids, upon which sooty mold fungus grows. Mites usually cause a silvering of the leaf surfaces in the later stages of damage.

2. **Hand Picking** — Where the pests and host plants are few in number this method may be effective such as the control of snails and some leaf feeding caterpillars. This approach also works with some disease problems. Die-back and leaf gall are both controlled by cutting back beyond the infected parts and destroying. This leads to a third means of control.

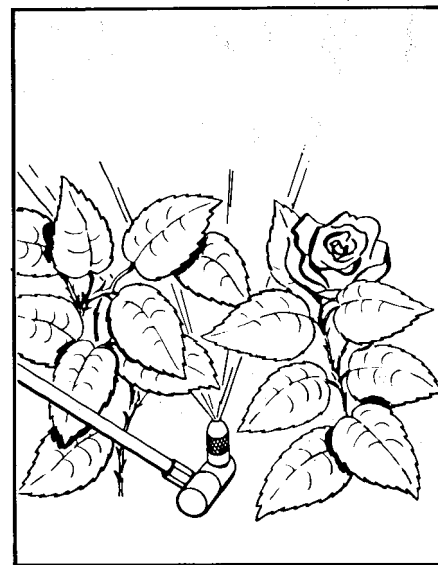
3. **Clean Culture** — Remnants of plants should be destroyed as soon as practical. Weeds should be removed

promptly for they often harbor and serve as breeding places for many insects and mites. The centers of large plants should be pruned clean to allow air circulation and to eliminate weak and stunted growth.

4. **Pesticides** — Many times pesticides are the only dependable means of holding pests in control. Those pesticides dealing with insect pests are called insecticides and may effect their control in several ways. Contact insecticides penetrate the body wall to cause death; pyrethrum, diazinon®, malathion® are examples. The insect must be present at the time of spraying and must be contacted for these products to be effective. There are also residual sprays which are a special kind of contact spray. Residual sprays are applied in such a way that a film-like layer forms on the surfaces of the plant or that the spray is absorbed (systemic action) by the plant tissues so that later contact or feeding will kill the insect.

Insecticides may be grouped according to the way in which they affect their intended hosts. The natural pyrethrins and their synthetic counterparts usually have a rapid knockdown for they act on the nervous system. The organophosphates such as diazinon and malathion have as their toxin an inhibitor of the enzyme cholinesterase. The carbamates, such as Sevin®, also act by lowering the cholinesterase level and affecting the

continued on page 28



An adjustable nozzle lets you mist under the leaves where scale and other "bugs" settle in. (Photo courtesy of H. D. Hudson Co.)

* Including gibberellic acid.

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nervous system. A new groups of insecticides known as insect growth regulators are coming onto the market. They work by upsetting the juvenile hormones and keep the insects from reaching maturity.

Besides insects, ornamental plants are also subject to many diseases both parasitic and non-parasitic. The parasitic diseases are caused by those plant organisms which lack their own food making capabilities and must obtain food from other plants, living or dead. The fungi and bacteria fall into this group.

Non-parasitic diseases are those problems which are caused by non-living factors such as malnutrition, mechanical and chemical injuries, extremes in weather and general environmental conditions such as salt damage, sunburn and smog.

The most important step in using pesticides is the accurate identification of the pest requiring control. Your local agricultural extension office, will be found most useful as well as your local library and nurseries. Certain insecticides used to control chewing insects will have no effect on sucking insects. Likewise, a fungicide will have no effect upon non-parasitic diseases.

All pesticides have one thing in common . . . they all have a label. **READ IT!** The label will tell you the true or scientific name of the product, the manufacturer's name where more information or help may be obtained, a listing of all materials in the product, the pest(s) to be controlled, directions for safe use and handling, method of application and finally, antidote and first aid instructions. Chemicals are toxic to man and animals in varying degrees depending upon many factors: type of animal, the chemical involved, and the mode of entry into the body. This entry may be by respiration, ingestion or absorption through the skin. The toxicity of a pesticide and its hazardness are not the same thing. Toxicity is a measure of how much pesticide is required to kill a certain percentage of test animals. Hazard on the other hand is the degree of danger involved in exposure to the product as it is used. Most pesticides are used in a diluted form so that the hazard of the chemical is less than its toxicity.

Even the most toxic pesticide can be safe for the environment and the user if

properly used. The best guide to its environmental effect is, once again, the label. Proper clothing should be worn . . . long sleeves, legs and head covered, gloves and in the case of the more toxic a face mask or respirator. In addition to following the label instructions remember to mix only the required amount of the chemical, add a wetting agent to assist in full coverage of the leaves and in some areas it is advisable to check the pH of the water. If the pH is too far from neutral (pH = 7) add a buffering agent for the adverse pH may make the pesticide ineffective. Best results are achieved by directing the spray from below to cover the under surfaces of the foliage and then from above to cover the upper surfaces. Keep the solution agitated to insure a uniform mixture and apply as a fine mist. Never spray when winds are strong to avoid carry-over of the spray material.

Pesticides, especially when improperly prepared (the "more is better" complex) may be too strong for tender foliage and result in burn conditions. Overuse may also lead to insect resistance. When possible, it is best to alternate between the use of two or more insecticides to minimize this developed resistance.

When the spraying job is done all equipment used should be thoroughly cleaned and stored. All sprays and equipment should be stored in a locked area and all containers should be clearly labelled. Finally, wash or bathe immediately and launder all clothing before wearing again.

(EDITOR'S NOTE: Mixing of more than one pesticide into one spray should be done with great caution and in strict accordance with the labels. Even then, precautions should be taken when switching brands of the same chemical(s). It is advisable to experiment on only a few plants before exposing the majority. Special care is required if one of the chemicals is an oil.)

ACS

Gibbing Camellias

Flower production by camellias in many growing areas is often disappointing because of winter injury. Hard winter freezes frequently injure flower buds before they have an opportunity to bloom. This is a more serious problem among varieties that flower in mid winter when there is greater danger of cold injury.

With the use of gibberellic acid (gib), a plant growth regulator, it is possible to speed up flower production and obtain blossoms before winter. In many cases, treatment with gib will produce larger, more spectacular blooms than usual.

Gibberellins are growth-regulating chemicals produced by most plants in very small quantities. Investigations of gibberellins in the United States were reported in 1950, but camellia growers did not become actively involved in testing gib until the early 1960's. The story of gibberellic acid goes back 156 years to Japan. In 1828 T. A. Konishi described a malady of the rice plant which was characterized by rice seedlings which grew taller than healthy plants and which failed to produce grain at maturity. Seventy years later, in 1898, a Japanese plant pathologist, S. Hori, named the disease

"bakanae." Not until 1938 was the active ingredient that produced the symptoms, gibberellin, isolated by two Japanese workers T. Yabuta and Y. Sumiki. Knowledge of this discovery did not spread until after World War II when testing was immediately begun. The first report of the use of gibberellin on camellias was in 1957 by J. A. Lockhart and J. Bonner who used it to break dormancy in growth buds of the variety 'Finlandia.' Col. Frank Reed of Pasadena was partially responsible for the present method of gib application to camellias. A solution of gibberellic acid must be applied to individual flower buds to stimulate them into production. See Fig. 1. The vegetative or growth bud is removed by twisting, leaving a "cup" of bud scales. A drop of the solution may then be placed into the "cup" with an eye dropper or syringe.

Testing over the years has proved the time required for a treated flower bud to flower cannot be accurately predetermined. The general condition of the plant, the size of the flower bud, and the weather are a few of the variables which effect the time element. Considerable variation occurs among varieties. Early



GIBBING TIME IS NOW!

flowering varieties may bloom within 30 days of treatment; varieties that normally bloom late often require 60-90 days to open. The time when first to apply gib differs geographically. It may be the early part of August if the buds are well formed, but usually not until the end of August or the first of September.

It is best to gib at weekly or other intervals rather than in one session. This will ensure that you have flowers over a longer period of time. Camellias set flower buds only once a year, so an autumn gibbed bud will not be replaced for spring.

The larger the bush, the more buds you can treat. Most people like to leave about 80% untreated. Apply gib very sparingly to a bush under three or four years old. Defoliation and apparent injury have been reported when all the buds on small

plants were treated.

It is best to cut treated flowers or then prune the stems back as the terminal vegetative bud on treated stems will usually fail to open. Most camellia cultivars respond well to gib, some better than others. Many of the whites have a tendency to bullnose. Some produce flowers that are quite different from the normal blossoms in petal formation or color variation.

Research by U.S.D.A. scientists indicates that disappointing results will usually be obtained when gibberellic acid is applied to shrubs and flowers other than camellias. The chemical usually causes a stretching of growth.

Gibberellic acid can be purchased from the American Camellia Society in powdered form; \$6.50 per 1 gram.

ACS

Winter Protection — Plant and Flower Bud Survival

WILLIAM L. ACKERMAN

Until recently, winter protection of Camellias was a task that only we northern growers were annually faced with at this time of year. Our friends to the south had other concerns; such as what should be done regarding next spring's protection against petal blight and dieback. This appears to have all changed since the recent widespread winter freezes, even down into northern Florida. In particular, the "great freeze of Christmas

1983" has left very few camellia growers unscathed, regardless of location.

There are two basic approaches to winter survival of camellia plants: (1) the breeding of cold-hardy hybrids that will withstand whatever our winters may bring, and (2) the use of physical barriers insulating the plants from winter winds and plunging temperatures. Although definite steps have been taken regarding the first approach (discussed in a previous article), the development of genetic

resistance to cold takes many years, even decades, so we must, in the meantime, resort to the second approach — physical protection.

Located half way between Washington, DC and Baltimore, MD, near the crest of a hill, we have found it necessary to resort to a number of methods to physically protect our 300-odd camellia cultivars and seedlings — these plants being about equally divided between those in the ground and those in containers. Until the latter part of the 1970's a simple wind break, consisting of a snow fence covered with burlap, was sufficient for most winters. Following the winter of 1976-77, this has no longer been true. Since then, we have experimented with the use of Microfoam[®] with rather good success.

Dr. Francis R. Gouin, Horticulture Department, University of Maryland, has been experimenting with Microfoam as a winter protection of broad-leaved evergreens (1) and it is our adaptations of his methods that will be presented here.

One problem with Microfoam is that it is only available in rather large quantities — individual rolls consist of material 6 feet wide and 220 feet long. Our local society, the Camellia Society of the Potomac Valley, has overcome this problem by purchasing a roll and then selling off portions at cost to society members. Last year, there were ten members of our society who purchased Microfoam at a cost of 6 cents per square foot. Most of the methods described in this article are from our own experiences, but some ideas have been borrowed from other CSPV and Pioneer Camellia Society (Baltimore) members. Since it is difficult at this writing to remember what we borrowed from whom, we can only say we appreciate the free communication of ideas that has always existed among our memberships.

The first consideration in Microfoam protection is the matter of timing — both when to put it on and when to take it off. The plants should have hardened off well, been subjected to a number of killing frosts (of herbaceous plants such as

* For those not familiar with Microfoam, it is a spongy plastic material 1/4" in thickness, manufactured by the E. I. DuPont de Nemours Co., Inc. and available to us locally through the Baltimore-Warner Paper Co., Industrial Division, 1201 67th St., Baltimore, MD 21237.

tomatoes, marigolds, etc.). Basically, they should be completely dormant prior to using Microfoam. In the Washington, DC area the proper time is around December 1st. Further south, it would be later. As we all know, seasons differ, so it is difficult to generalize. After all, who expected the Christmas freeze of 1983?

When best to remove the Microfoam in the spring is as important as when to put it on in the fall. The tendency is to leave it on too long and then remove it too suddenly. Plants under Microfoam, in most cases, have been subjected to a higher relative humidity than unprotected ones. Thus, it is best to remove the Microfoam in stages, opening up the top for a week or two before removing the enclosure entirely. For the tops, we do this in late February, here in the Washington, DC area and remove the entire enclosure by the first week or so in March. Again, further south this would be progressively earlier.

The first system we used, starting in 1979, was Dr. Gouin's unstructured thermo-blanket technique for container-grown plants. This system has proven to be extremely successful for us during these past five winters. Since a detailed description was given two years ago (2), it will not be repeated here.

Protection of ground planted specimens is a bit more complicated, requires more labor and materials, and there are more variations in systems that may be used. Any suitable system should fulfill the following basic requirements:

- (a) Fully protect the plant from winter winds and severe temperature changes.
- (b) Be sufficiently anchored down that it will not blow loose or off in strong winds.
- (c) Be strong enough structurally that it will not collapse under heavy snow.
- (d) Offer some protection of the Microfoam itself from punctures and tearing.

Various methods and make-shift arrangements may be used to fasten and support the Microfoam and most seem to work reasonably well. Microfoam itself, has little or no structural strength so therefore a supporting cage or framework is necessary around the plant upon

which to attach the Microfoam. We have found that sheep or cattle fencing cut to proper length to encircle the plant, makes an excellent framework. Chicken-wire is also adequate, but not as strong, and may collapse under heavy snow. Vegetable gardeners who use tomato cages in summer may get double use as frames for Microfoam in winter. A circle of stakes for Microfoam support was also used successfully.

The shape of the structure may be cone (or teepee), cylindric, or irregular (Figures 1 through 7)

The main criteria appears to be to completely cover the TOP as well as the

INCORRECT!
(Must cover top completely)

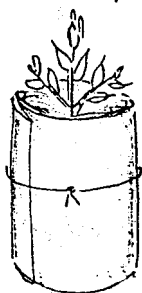


Figure 1.

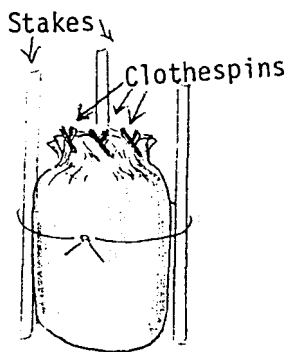


Figure 2.

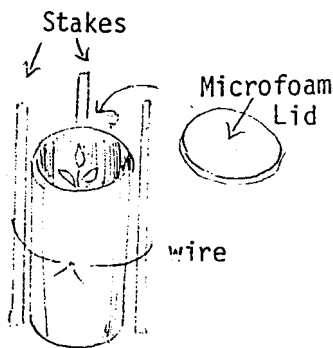


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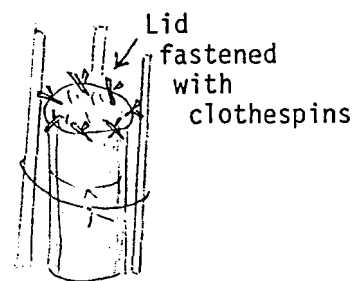


Figure 4.

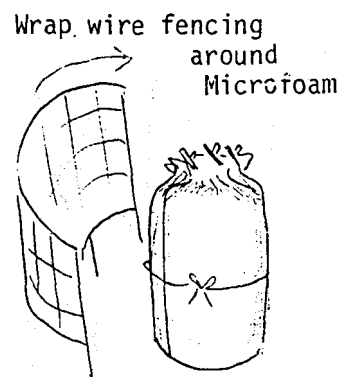


Figure 5.

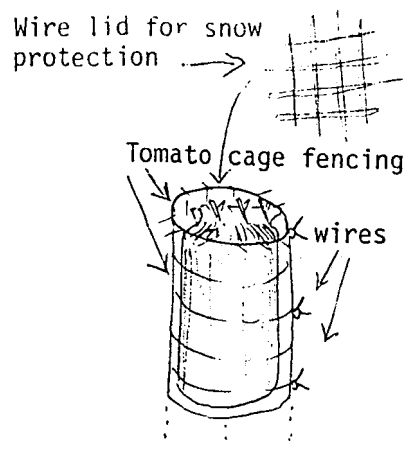
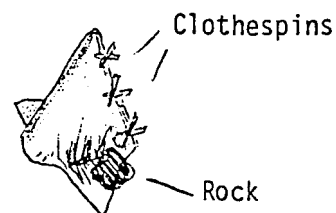


Figure 6.



CONE or TEEPEE

Figure 7.

sides of the plant. In our first attempts we left the top open on some plants and closed others. The difference was dramatic — many plants with open-topped enclosures were severely injured while those with closed tops were undamaged. Since Microfoam is translucent, letting through filtered light — there is no apparent lack of adequate light at least during the plants dormant period. Where feasible, there is an advantage of securing the top of the structure with clothespins in such a way that it can be opened during those occasionally very warm winter days to help avoid over heating within the structure. Brief periods are of little consequence, but extended warm spells may partially bring the plants out of dormancy, thus making them susceptible to a later severe drop in temperature.

Whereas, a bare soil is recommended below the unstructured thermo-blanket technique for container plants, it seems helpful to place a thick layer of leaves, woodchips, or other insulating material within the bottom of the structure for individual ground-planted specimens. Also plants should be well watered before being protected.

Only a few techniques for using Microfoam protection are discussed here, there are undoubtedly many variations from

these that may prove more practical for individual situations. One of the desirable characteristics of Microfoam is that it is adaptable to many different uses. Some growers have used it for covering their coldframes — and reported some success. We tried it under a southern exposure and the Microfoam literally disintegrated within a few months (its worst enemy apparently is ultraviolet light). This is not a problem for shaded or partially shaded camellia plants. If camellias are planted in full sun, it would be well to follow Dr. Gouin's advice of covering the Microfoam with white plastic or clear plastic painted with white paint.

Trial and error, and a need for flexibility is essential, and each individual camellia grower must adapt his own techniques to best suit his own needs. If our past winters are an indication of what is ahead, we may well either have to adapt, or go out of the camellia business!

LITERATURE CITED

1. F. R. Gouin and C. B. Link. 1979. Temperature Measurements, Survival, and Growth of Container-Grown Ornamentals, Overwintered, Unprotected, in Nursery Shelters and Under Microfoam Thermo-Blankets. *Amer. Soc. Hort. Sci.* 104(5):655-658.
2. K & B Ackerman. 1981. The Use of Microfoam. *The Amer. Cam. Jour.* 36(4):9-11.
3. Illustrations by Kitty Ackerman.

ACS

Heat Hardiness and Summer Care

DOUGLAS DEANE HALL

"Summertime and the Living Is Easy." Oh, yeah? The words of Gershwin's opera, "Porgy and Bess," may be true along Charleston's Catfish Row, but "it ain't necessarily so" for the serious camellia grower. No indeed.

After you have moved your green-

house potted plants outdoors and cleaned (sterilized) the inside making it ready for the following winter's use, you may think you can rest during the lazy season ahead. Your plants in the ground sparkle in the first flush of new growth; it's time to go fishing. You have finished your grafting and started enough air layers; you are about to plan a mountain or

seashore vacation. Cynically we repeat, "oh, yeah?" Think again.

Summer is no time to slack off. Our Massee Lane Horticulturist spotlights this by assigning a writer to elaborate on heat hardiness and summer care. Never minimize our obligations to our best-loved plant genus. Never overlook the opportunities for TLC that summer affords.

How to address camellia growers across the country staggers this writer inasmuch as he has lived neither in the southern heartland nor the wet or the dry valleys of the West. He spends sixty percent of the year in Maryland (temperature zones 6 & 7) and forty percent in semi-tropical South Florida (zone 10) while most growers congregate in zones 8 & 9. A friend suggested, "Let the readers add Maryland and South Florida findings together and divide by two." But — what school teaches that kind of math?

In respect to sun and heat, the words hardiness and tolerance will appear often in this dissertation. They are not synonymous, but Webster does not clearly differentiate them, though specifying that "in gardening" hardiness is "the ability to withstand the winter without special care." Certainly no camellia fancier would deny Webster the right to specify also that hardiness can be "the ability to withstand sun or heat without special care." The dictionary attaches an "ability to endure" to both hardiness and tolerance, yet is silent on how they differ. An advisor offers this distinction: hardiness bespeaks a strong, responsible approach to an uninvited situation (sun or heat); tolerance, an uneasy, permissive approach.

It is sometimes difficult for humans, who are able to retreat from the sun when it gets too hot, to be conscious of the

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fact that camellias are stuck where their owners placed them and unable to reach for a cool drink. It would be great if they could store water like camels or cacti to use in a period of drought. Life for the camellia depends upon light, air, water and chlorophyll from the leaves to produce the food which the cambium layer (between bark and wood) transmits to all above-ground parts of the plant. If completely dehydrated, the camellia, like man, will die.

How much heat can camellias take? Some can take long hours of direct sun, others only a few hours, and still others prefer filtered sunlight. But it goes against nature (self preservation) to want dense shade, for that reduces development of flowers (ergo, seed).

Many old gardeners believe that camellias should not be planted in sunny locations, but there are challengers of this belief. For example, long ago we used up all the shady spots in our northern (MD) and southern (FL) gardens, so, to extend our collections of camellias, we had to use some unshaded areas. The results have been pleasantly surprising.

It all started deliberately in South Florida when the U. S. National Arboretum asked us to test for heat tolerance some interspecific hybrids which the Agriculture Department had developed, using imported southeast Asian hybrids as pollen parents. We planted them in places varying from 90% sun to 90% shade. It was enlightening to find that those at the sunny end of the spectrum grew fastest and bloomed best! Since this discovery we have ventured to place *Camellia japonicas* and *Camellia vernalis* in greater degrees of sunlight in South Florida with good results so far.

Coincidentally we have become aware of a somewhat similar phenomenon occurring in the southwest corner of the Maryland garden where a slat house was erected in 1965 to provide partial shade for 25 or 30 camellias. The finest development of plants and flowers took place there in the early years. However, 1977 brought the first of three disastrously cold winters, including 1981-82 and 1983-84, when temperatures dropped below 10° F even down to 10° and 15° below zero. Plants under the slats were harder hit than those in the open.

At first we attributed this to wind and

higher elevation (a difference of 10 ft. above the lowest part of the lot). But now we attribute the disproportionate kill to four trees which, from offering no shade in 1965, tower overhead today, cutting the sunlight, limiting plant growth, attracting root expansion nearer the surface, and exposing the wood, foliage and roots to intensified freeze injury. Thus the Florida experience is telling us in Maryland to take down the trees or stop planting under the slats. A shift to sunnier sites is indicated because the two largest trees belong to neighbors.

After those extremely cold winters, some camellias appeared dead in early spring but were resuscitated in summer by action of nature, not man, and the same thing could be happening in other parts of the country. Camellia-coroners may have rendered death-by-cold verdicts too hastily. Currently, however, growers adopt a new strategy: don't dig up and destroy the thought-to-be-dead plants before the first of August because many of them may issue sprouts from roots or from dead-looking wood as late as June and July. Although some of the new growth won't harden off sufficiently before frost arrives, some will survive a normal winter and then thrive.

Nature alone holds the prescription for such resuscitation. Hence, man leaves recuperation to nature, waters sparingly in drought, and avoids pruning and fertilizing. Finally, after new growth on the plant has reached six inches in length, it is safe to prune out what has not sprouted and to reinstate normal summer treatment. Plants which do not make the grade by August 1 should surrender their sites to cold-hardy cultivars.

A word about regularity of water supply. Camellias need an inch of water every week. If rainfall fails to furnish this much, man must give it, unless automatic sprinklers are operational. Since scarcity of rain often escapes the eye, a good habit to form is to check the rain gauge daily, make notes of dates and amounts of rainfall, and refer routinely to these notes so the absence of rain will not slip by unnoticed. In watering by hand, try to spread the water evenly from the trunk to the drip line which is not a perfect circle but extends outward as far as the longest branch. Before you take a trip, arrange for a competent person to as-

sume the watering responsibility.

The fate of our fifty camellias in South Florida during the seven warm months we spend in Maryland depends upon an automatic sprinkler system which has proven reliable over the last eight years. Because of this we have been able to exhibit in the Central Florida camellia shows and win ribbons at Orlando and Lakeland. Thus we have shown the error and arrogance of local gardeners and garden editors who proclaim that "camellias cannot be raised in South Florida." Newspaper editors and county agricultural extension agents refuse invitations to visit and see our camellias in bloom. This is unpardonable, but we do excuse the native population on the basis that they have never had to water anything that grows except grass, and then only if they want a nice lawn. Anyone who may ever have tried to raise a camellia without water has failed, of course. The area is full of beautiful native shrubs and trees which are sun hardy and dryness tolerant, like bougainvillea, hibiscus, oleander and royal poinciana, for example. A few people of the present generation (probably immigrants like us) who are familiar with water requirements are raising roses successfully.

The threat of increasingly bitter winters in Maryland which may doom outdoor culture there forced us to acquire some potted camellias two years ago. Not owning a greenhouse, we have protected them in winter with microfoam and plastic covers which have worked well.

In discussing containerized camellias we mean those growing in plastic cans. If yours are in wood, metal, cement or pottery containers, please allow for whatever differences you deem advisable as space does not permit reference to every type.

We stand our cans on the ground in summertime like most greenhouse growers do on putting theirs outside for the season, although some sink their cans in the ground (to ameliorate the job of watering) at pain of having to dig them up in autumn. Some degree of shade should be provided (1) because, having been protected all winter, they cannot be considered sun hardy and (2) in order to delay evaporation from the can. Overhead slats, cloth, trees, fences or walls will aid in this respect, and mulch too if

placed atop the soil in the can or around the exterior and if thick and heavy enough not to be blown or washed away by storms or shunted aside when birds or beasts are rummaging for food. Such possibilities are reduced if the cans are placed quite close together with mulch between them.

Misting of foliage of container plants is always welcome, particularly early and late in the day, but watering before the soil moisture has gone is the most important thing. The stream of water needs to be gentle and directed into the pot rather than over the leaves so that it falls past the edge of the pot. Be certain that there is good drainage so that only the moisture, not the water, stays.

In two respects the feeding of container plants differs from those in the ground. Because frequent watering tends to leach away the food, more frequent feeding is necessary; and because the compact space increases the danger of burn, the dose of food should be smaller. A good practice is to use a 4-8-4 mix (less nitrogen and potassium than phosphorus) monthly after blooming and between times a soil drench made from a peck of

manure suspended in 25 gallons of water. If you ever visited rural Germany in summer, you saw the ox-drawn carts ("honey wagons") hauling big wooden casks full, not of beer, but of this smelly concoction. At home in Maryland we call it the Five M's, Mother Martha's Miracle Manure Mixture.

If some container plants look less healthy than others, perhaps they need re-potting. Roots may have grown thick and long, compacting the soil at the cost of porosity and aeration. Your course depends on whether you want it to grow larger or not. Either transfer it to a larger can with the addition of a very porous soil mix; or shake off the soil, put it into a bucket of water after pruning back the larger roots, return it to the same can in a proper soil mix, and then top it and cut the longer branches to compensate for root loss. It is best if this is done between periods of growth, but not absolutely necessary.

An article entitled "Greenhouse Camellia Culture" by Fred Hahn of Matthews, NC, in the spring '84 issue of *Carolina Camellias and Atlantic Coast Camellias*, edited by James McCoy, 3531

Scottywood Drive, Fayetteville, NC 28305, hits the high points briefly in two pages.

When cut edges or holes appear on fresh young leaves, you will know that chewing bugs rose from moist soil while you slept and climbed the plant, and when spotting appears on upper or undersides of leaves, the suspects are aphids, red spider mites or scale. It may take a miracle to eliminate these pests, but you can control them in several ways: (1) scatter slug bait around the base of the plant, (2) brush undiluted Cygon (Dimethoate) an inch or two around the trunk just above the base, (3) spray with dormant summer oil before seasonal temperatures get into the 90's, or (4) spray Malathion on the plant several times during summer.

Camellia dieback is a fungus disease which infests mostly the warm, humid areas of the country and least of all the dry sections, but it can start anywhere and spread rapidly if conditions are favorable. (See the article on Camellia Diseases elsewhere in this issue.)

Loss of dark green sheen or yellowing of leaves causes one to check the pH of

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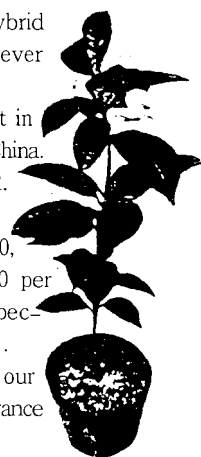
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both the soil and water supply. Camellias prefer acidity readings between 5.5 and 6.5. The disadvantage of alkalinity can be offset by applying magnesium (Epsom Salts) to the soil at the rate of 1 tbs. per gallon of water, and later to the foliage a similar measure of iron chelate. This should not be done often for fear of burning.

When your camellias were in bloom and you could have cut some of the flowers with long stems for the house or to give friends, you possibly unconsciously began the annual pruning which every sizable plant needs. As summer comes along, the pruning may productively be carried further, although pruning is not banned in any month if it needs to be done. This action does not preclude new growth which in volume may exceed that which was trimmed.

In pruning you can shape the plant at will and get rid of dead wood, misshapen, infertile and crisscrossing branches. Furthermore, the center of the bush is opened to improve air circulation.

Late summer is also the time to consider gibbing. (Be sure to read the article on Gibbing Camellias elsewhere in this issue.)

The table below lists camellia cultivars in the writer's Maryland and South Florida gardens which are sun tolerant and sun hardy, and indicates which of those in Maryland are by coincidence cold hardy.

		Maryland		Florida	
Cultivars	Sun Tolerant	Sun Hardy	Also Cold Hardy	Sun Tolerant	Sun Hardy
HYBRID					
Two Marthas	—	—	—	—	v
JAPONICA					
Angel's Blush	v	—	v	—	—
Cabeza de Vaca	v	—	v	—	—
Debutante	—	—	—	v	—
Don Mac	v	—	—	—	—
Dr. Tinsley	—	v	v	—	—
Eleanor Hagood	v	—	v	—	—
Gov. Mouton	—	v	v	—	—
Grace Bunton	v	—	v	—	—
Jarvis Red	—	v	v	—	—
Jessie Bryson	v	—	v	—	—
Kramer's Supreme	—	—	—	v	—
Kumasaka	—	v	v	—	—
Lady Clare	—	v	v	—	—
Lady Van Sittart Pink	—	v	—	v	—
Lena Jackson	—	v	v	—	—
Leucantha	—	v	—	—	—
Marjorie Magnificent	—	v	v	—	—
Monte Carlo	v	—	v	—	—
Mrs. D. W. Davis	—	—	—	v	—
Red Giant	—	—	—	—	v
Rev. John Drayton	—	v	—	—	—
Rosea Superba	—	—	—	v	—
Rosehill Red	—	v	v	—	—
Sarasa Pink	—	v	v	—	—
Semi-double Blush	—	v	v	—	—
SASANQUA					
Maiden's Blush	v	—	—	—	—
Mine-No-Yuki	—	v	—	—	—
VERNALIS					
Dawn	v	v	—	—	—
Star Above Star	—	—	—	—	v

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Greenhouse Culture

ANNABELLE and LEW FETTERMAN

We live outside Clinton, N. C. in a quiet, peaceful country setting. Growing camellias is easier for us — we planned it that way when we built our home. The house faces a lake with the greenhouse, slathouse and garden leading down to a smaller lake on a lower level.

We grow our camellias in containers so more will fit in our already crowded greenhouses. Because the roots of the plants are confined, they cannot reach outside the containers for food and water. Both must be provided adequately.

First, the soil mix needs to be light so the water will drain quickly. We use two parts aged sawdust (30 years), one part fine pine bark, one part clean builders sand, ½ part perlite well mixed. We add

one handful of dolomitic lime and one handful of Azalea/Camellia fertilizer to a wheelbarrow full of the mix. We put about an inch of coarse pine bark in the bottom of each container with some scattered on top of the mix as a light mulch.

Our freestanding greenhouse is 20' x 40' and has a lower level section at one end for the taller plants and a larger regular height section for other plants. Our lean-to greenhouse is 8' x 20' and is attached to our home on the south side. This is where we like to keep young grafts and other smaller camellias we have coming on. Plants are moved into the greenhouses just before the first frost in the fall — about November 1 and removed to the slathouse after danger of frost is past in the spring — usually around April 15 in our area.

Our summer days in eastern North

Carolina can be very sunny, hot and dry so we think that the moisture rising from the lake in the evening thru the early morning hours is beneficial. Our camellias seem to like the time they spend in the slathouse.

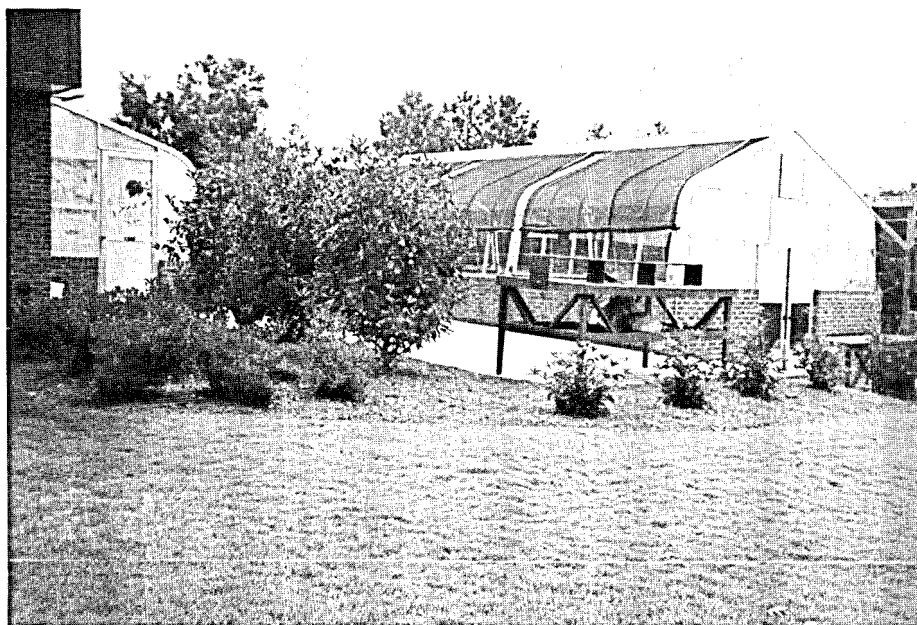
We have misters installed under the snowfence top of the slathouse which are automatically turned on for 10 minutes per hour during our very hot days when the temperature reaches 95° F or 100° F or even more. The shade of pine trees will do a great job of protecting camellias from the hot sun, but our pines are not yet large enough. This summer plastic shade cloth was installed in panels on the sides to prevent some of the sunburn experienced last year.

Disbudding is an important chore for good outdoor or greenhouse blooms. We begin as soon as flower buds can be distinguished from growth buds and continue all summer. Too many buds make lots of color, but not good specimen

blooms. The position of the bud is not critical in the greenhouse so long as there is plenty of room for the blossom to open. The slightest touch of your hand or a leaf can bruise an otherwise perfect flower. We use lots of clothespins to keep leaves away from blooms and opening buds. Outdoors, a bud facing down as it opens will be less likely to be damaged by rain, etc. Be sure to disbud for better blooms. We always say we'll disbud more severely next year, but somehow cannot bring ourselves to remove that many.

Second, fertilizer and its application varies from grower to grower and many of us change programs occasionally. If yours is working well for you, don't change. About March 15 we add two tablespoonfuls of lime to each 5 gallon container with proportionately less for a smaller container and more for a larger one. When they have been moved from the greenhouse around April 15, we add two tablespoonfuls azalea/camellia fertilizer and one tablespoon seaweed meal to a 5 gallon container; about June 15 add two tablespoons cottonseed meal; and August 15 one tablespoon 20% superphosphate. Once the plants are back in the greenhouse, we mix two tablespoons fish emulsion and one tablespoon liquid seaweed per gallon of water and apply at the rate of one quart per 5 gallon container.

Throughout the winter we use liquid



Freestanding and lean-to greenhouses where plants are kept during the winter.

fertilizer about once a month using alternately 2-10-10 and 10-10-5 which have been mixed two tablespoons to a gallon of water with a quart being added to each 5 gallon container.

In the spring and again in the fall we make a paste of Benlate®, Captan® and water. This is applied in a 3 inch band on the trunk of each plant for die back. Subdue® is added each fall according to the manufacturer's instructions to prevent root rot.

Pruning plants in the greenhouse is perhaps more critical than for outdoor

plants. We prune in the spring as soon as blooming is over. A crowded greenhouse will accommodate more plants if they are kept straight and tall. Ours look pretty much like "plucked chickens" when we finish pruning as well as taking out the inner growth and crossing branches of each plant. Outdoors you probably will want a lovely landscape plant so you prune differently. Remove the inside and crossing branches as well as the branches lower than 12" where the blooms get splashed when it rains. Then shape according to the height you want and the space available for it.

Our best blooms come in the fall so we start gibbing Labor Day and continue every week or 10 days for about 6 weeks. Then we start again about December 15 for another six weeks. For best results, we gib only nice plump well-developed flower buds. Beautiful outdoor blooms will be enjoyed if you start gibbing 2 or 3 buds on a good size bush about August 20 and repeat every week or 10 days through October 1st. Many of the buds will open before cold weather sets in. Gibbing a bud once seems adequate, but sometimes we notice one that was gibbed earlier and treat it again.

The thermostats in the greenhouses are set at 40°, but day time temperatures usually run higher. During the blooming season the humidifier is set for 85% humidity and we have noticed that the blooms open better than in a drier house. Blooms never open the day before we



Slat house where plants are kept during the summer. Note young pine trees.

leave to attend a show — its always a day or two after. The week before a show we cut and store flowers in the refrigerator as they open. We think that using a teaspoon of Floralife in a quart of distilled water is a good solution for keeping blooms fresh. Usually 2 or 3 tiny cups containing cotton saturated with the above solution are placed in 11" x 15" x 6½" deep plastic boxes on Easter grass or polyester fiberfill. Blooms are cut just before reaching their peak either in the evening or early morning and the stems are placed so they rest in the tiny cups inside the boxes being sure they do not touch each other or the sides of the box. Boxes are then taped shut with 2 inch

masking tape so they are air tight. They will not be opened until we are ready to enter them in a show or whatever else we want to do with them. Two of these boxes fit on each shelf of our "camellia refrigerator."

When getting off to a show, Lew puts down a 2" thick piece of foam rubber in the trunk of the car. On this is placed an open blanket and then the boxes of blooms are carefully placed on the blanket. Blue ice packs are placed on top and around the boxes to keep the flowers cool during the trip and the blanket is pulled up around them. More blankets are added over the top and sides to insulate the blooms from temperature

changes. Lew is in charge of loading the car and "toting" the boxes to the staging area of the shows. His careful handling of the blooms does make a difference in the condition of our flowers.

Sharing blooms is one of the nicest things we can do for others. Ladies at church enjoy a blossom and men like boutonnieres. Friends like blooms when having a social gathering. A display of blooms put out most anywhere brings smiles and compliments from total strangers. Take good care of your camellias — they are our best good will ambassadors.

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Landscaping With Camellias

The camellia is a plant of great variety and versatility with regard to both flower and foliage. Like the rose, it is popular because of the great beauty of its flower but, unlike the rose, the camellia is an attractive plant year around. Even if camellias never flowered, most would rank high on any list of recommended landscape shrubs. Additionally in their favor, camellias are comparatively easy to grow, tolerant of both sun and shade to a limited degree, and provide an abundance of color and excellent flowers for cutting when little else is available. As landscape plants, camellias are most limited by climate. (These effects can be

moderated to some extent: see the article on Winter Protection elsewhere in this issue.)

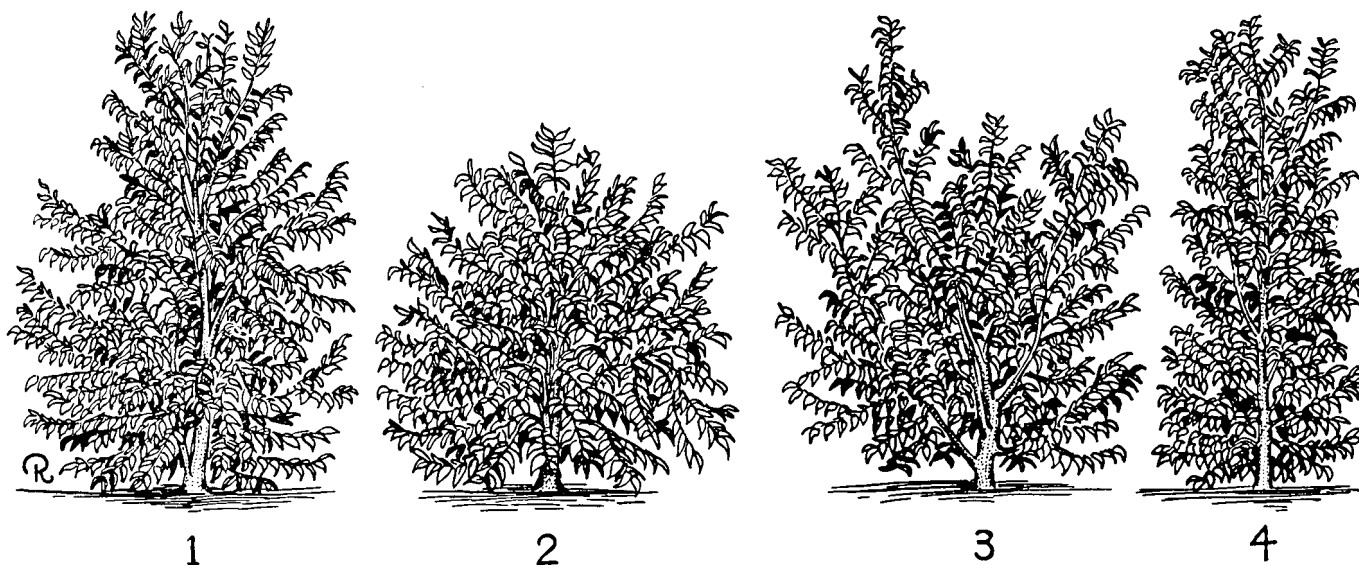
A well rounded collection of three species — *C. japonica*, *C. sasanqua*, and *C. reticulata* can provide blooms for up to eight months of the year. There is a wide range of flower forms (see pictures page _____) and growth habits. This diversity makes the camellia amenable to many different uses. With this information in mind, consider the landscaping possibilities camellias offer.

Accent specimen. Visualize one camellia plant in full flower and then imagine

it placed in an area of your garden you would like highlighted during the year's least colorful season. This could be at the edge or in a projection of the lawn, or at a curve or corner of the walk. This could also be a container plant on a patio or an espaliered plant on a fence or wall.

Pillar usage. A matched pair at an entrance to the garden or a camellia beside the front door would be an attractive use of the columnar growing plants.

Basic shrubbery. The idea may seem dull, but every garden has a need for basic shrubbery. Camellias may be used as a foundation planting, along a fence or



Habit of growth of camellias: 1) upright-spreading; 2) globose or round-headed; 3) irregular-spreading; and 4) upright.

walkway, or as a backdrop for lower shrubs, perennials, or annuals. It is usually wisest to use one variety when planting in this fashion to ensure even height.

Espalier. Many *C. japonica* and *C. sasanqua* plants can be trained as espaliers, both in containers or the open ground. Use varieties with pliable growth that grow normally with more width than height.

Hedges. Many *C. sasanqua* plants and some *C. japonica* plants are vigorous and

dense enough to be used as hedges. They look best when only lightly clipped for an informal appearance. Choose a single variety or plants with similar foliage and growth characteristics.

Ground covers. The more willowy or vinelike *C. sasanqua* plants make luxurious ground covers with handsome foliage and fall blossoms.

Container plants. Camellias take well to container culture and many gardeners prefer to grow them this way. You may

use the bonsai method or give the plant free-rein in a medium-to-large sized container.

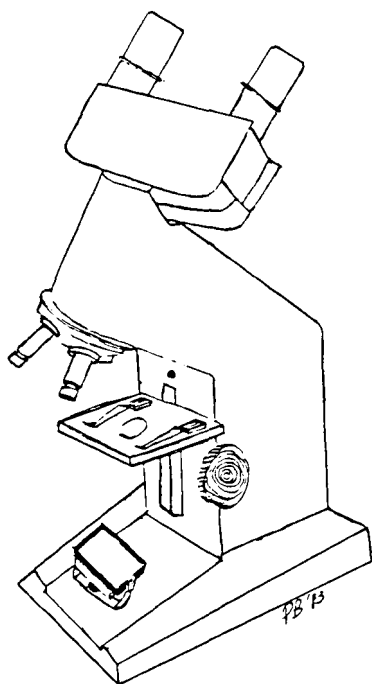
Woodland garden. Casually grouped around meandering paths under light shade, camellias can help you achieve a fusion of natural beauty and artistic control. Use masses of camellias of different varieties.

Hanging baskets. Many *C. sasanqua* plants have cascading growth which can be pruned to use as hanging baskets.

ACS

Notes From The Research Horticulturist

BETTY HOTCHKISS



I can hardly believe that October 14 is my first anniversary here at Massee Lane. It has been a busy and exciting year for me. I have enjoyed meeting many of our A.C.S. members at both the A.C.S. and regional meetings and look forward to seeing all of you in the future.

During the past year we have made additions to the gardens to provide more color in the summer months. We have enjoyed both an annual and perennial

flower bed full of blooms. Plans are underway for the addition of a rose garden complete with gazebo. This should be an outstanding addition next summer.

I am pleased to say that most of our plants here at headquarters are making an excellent recovery from the cold damage. Let us keep in mind this year some things that can be done to reduce cold damage in the future. Be sure to keep plants well watered throughout the winter season. Adequate moisture is very important in reducing cold damage. This is a good time of year to add extra mulch. Mulch helps to retain moisture and protects roots from the cold. Outdoor plants should not be fertilized in the late fall or winter. Tender, succulent growth will be hurt by the cold. One-year grafts should be covered by a peach basket (or something similar) during a short period of extreme cold. Plants that are in a wind tunnel will suffer more from the cold and wind than plants in protected areas. Add wind-breaks on the windward side to protect these plants.

I hope that you will note in the Journal that we are now selling gibberellic acid (gib) at headquarters. We hope that A.C.S. members will take advantage of this opportunity to purchase legal powdered gib. Here at headquarters, the entire staff has been gibbing since late August to ensure early blooms.

In line with our President-elect's "positive approach," I am positively looking forward to seeing all of you at Massee Lane for the Fall Meeting and Show. It should be a great time of fun, fellowship, and flowers and a time to see what your Headquarters is doing for you!

Horticulturally Speaking

COMMITTEE ON HORTICULTURE

I am sure that camellia growers in the South and East will be talking about Christmas of '83 for some time to come. In Horticulturally Speaking we have chosen not to dwell on that phenomenon. We are looking forward to a great blooming season. Mr. Jim Randall of Sacramento has this glowing report:

"The watchword here has been water, water and water some more. We have just been through a heat wave (Temp.'s to 110 & low humidity) that lasted over three weeks. As of this date we have had 22 days (record is 30) of 100 degree temperatures with a month and a half of hot weather ahead of us this summer. Areas to the south of Sacramento in the San Joaquin Valley have been even hotter.

"Despite this extreme heat wave, the Camellias have come through in good shape. The new growth and foliage for this year is excellent. A few growers in our area had some leaf sunburn show up on their plants during the heat wave but nothing very serious. By using overhead sprinklers to cool my container grown plants, I have not had any sunburn problems.

"A poll of the growers here indicates an above average budset for the coming bloom season. Many varieties have buds set on four and five leaf axils down the branches from the terminal buds. In my lathhouse the budset is excellent with 'Moonlight Bay,' 'Margaret Davis,' 'Elegans Champagne,' 'Elegans Splendor,' 'Fashionata,' 'Silver Cloud,' 'Royalty' and 'Dr. Clifford Parks' showing an extraordinary budset. Disbudding here is well under way and probably will be more of a chore than usual this year.

"I believe the japonicas love this hot weather which is very conducive to the development of larger flowers. Here in California the largest and best japonicas are generally grown in the hottest areas of the state. Also, a couple of growers here are equating the reduction in this year's aphid population to our prolonged hot and dry weather.

"Time is fast approaching when we can begin to gib. I do some very early gibbing beginning the first of September to try to have blooms for the mini-show at California's annual Camellia-Rama held in Fresno the first weekend in November. I've done some extensive note keeping and data compilation for several years on the results of this early gibbing. I would be glad to share this information with anyone who is interested in some of my findings regarding length of time for various varieties to bloom and resulting bloom quality. I generally start gibbing for the spring blooming season during the latter part of November and continue through December on a once a week basis to insure blooms for our shows in February. I personally don't gib as much for our March shows when the normal blooming season is at its peak.

"In regards to shows, here are a couple of basic tips regarding shows for all exhibitors. (1) Be sure to read each show schedule carefully to check on rules, regulations and classes available. Sometimes, I think exhibitors never read a show schedule. This is extremely important since most shows change their schedules and/or add new classes each year. (2) Don't judge your blooms in the lathhouse and say to yourself, 'this doesn't have a chance of winning so I won't cut it for the Show.' You just don't know what other exhibitors will have to put out in each class. Besides, if your blooms are clean and of good quality the show is glad to have them. The more blooms, the more beautiful the show. So, support all the shows you can.

"The Sacramento Camellia Festival Association stages three events each year during our week long festival which features the sharing of Camellia blooms with others. They are:

"(1) AIRPORT PIN-ON DAYS (two days) — Camp Fire members greet arriving passengers at Sacramento Metropolitan Airport and give them a Camellia blossom and a schedule of events.

"(2) SENIOR CITIZEN'S DAY — Camp Fire members offer Camellia blooms to Sacramento's seniors at Senior Citizen Centers and in neighborhoods.

"(3) CHEER-UP DAY — Soroptimist International, the Women's Social and Cultural League, hospital auxiliaries and Retired Senior Volunteers distribute thousands of Camellias to patients in hospitals and convalescent homes.

"Cold injury recovery, fortunately, is not a problem for us in California. Last winter in my lathhouse I had only five days of 32 degrees or below with the lowest temperature being 30 degrees. We have found that 'Frances Council' is extremely sensitive to cold. Even with our mild temperatures of last winter my plant completely dropped all flower buds, this also has happened in previous years. Extra protection will be provided in future years. Have others experienced similar problems with this variety?"

And from Marvin Jernigan of Warner-Robins, Georgia, we have this encouraging report —

"We had a great deal of gloom from our camellia growers in this area after the freeze last Christmas. Despite the dire predictions I heard, the camellia plants are doing well. All have new growth that looks good and good color and form. We will have a good bit of growth toward the inside of the plant but

this will give us the opportunity to start shaping our plants as we want them. I will not do this for another year.

"In this area we are having the earliest budset that I can remember (7-30-84). I have been disbudding for about a month now. The buds are large enough to gib at this time. But I will wait until around Labor Day to gib as that normally gives me blooms for our Massee Lane Show. I will gib every Sunday until about the middle of November for late shows.

"I gib very few *Camellia reticulatas* as I want these to set seed and have found that I get a better seed set in February, March and April than on early blooms. Also the seed will germinate better for me without the use of gib. This is different from the findings of some hybridizers, but it works better for me and the results are what we are all looking for. I have about 40 hand-pollinated seedlings that have set buds for the first time this year. I will not gib these flowers as I want to see them as they are the first few times they bloom. Also this gives me a chance to see when they will bloom without gib.

"The quality and amount of new growth this spring indicates that most of us in the South will have a good camellia year. Let's all look forward to what will happen in the future instead of worrying too much about what happened last winter."

Also from the West Coast city of Alameda, California comes this interesting story of disbudding by Clem Roberts:

"We live in Alameda, California on an island on the east side of San Francisco bay adjacent to Oakland.

"Our climate is very mild with a temperature about 5° degrees F above San Francisco's. Daytime summer temperatures average in the high 60's and low 70's and nighttime temperatures are in the middle 50's. It is very rare that we have a measurable amount of rain during the summer.

"By mid July here in northern California, we are all starting to watch the bud set on our camellias. As the first of August arrives we have a very good beginning and are already disbudding a few of the plants. If you want show flowers heavy disbudding is mandatory. Actually, what you are doing by disbudding your plants is a continuous grooming process. This should be carried out once the buds are developed enough to begin disbudding. Different varieties will vary as to the time their buds will be formed. Some will be more prolific in their bud set than others and then there are those that set buds sparingly and have just one bud at the terminal end of the branch. Our summers here allow us to be outside every day among our camellias so that it is a simple matter to disbud the plants at the same time. Disbudding is designed to increase the size and quality of your blooms and consequently is a faithful procedure performed by the head table flower growers. We believe if you want good size and form, disbudding is essential along with pruning at the proper time. This, of course, goes on concurrently with your plant culture.

"The disbudding process should be started by removing all buds except the cluster of buds at the terminal end of the branch. Next, decide which bud in the cluster you wish to leave on the plant. As you disbud, try to leave the largest bud in the cluster

that is in the most favorable position for opening up. The bud should not be crowded by adjacent branches or leaves. Another preference as to the bud choice, is the bud which is in a downward position. This bud would generally have the advantage of opening without dust or water damage, etc.

"It may seem discouraging as soon as you disbud a plant to come back sometime later and see new buds forming once more. We feel that by continuously removing the unwanted buds, all the strength is going into the chosen bud bringing you closer to your goal for a perfect show bloom."

A very interesting report from the deep south by Col. R. D. Hicks of Dothan, Alabama is as follows:

"I am primarily an 'under-glass' grower although I have 25-30 very large plants outdoors, mostly of the older varieties that years ago outgrew their containers. As a result, I do have an abundance of blooms in the fall that, along with the others that are mostly grown for show flowers, gives me plenty of blooms to share with my friends and neighbors. Since I am the only one in this locality that has a greenhouse and a fairly large selection of outdoor plants, I get many calls for parties, wedding receptions, etc. (I am not in the floral business.) I furnish most of the decorations for all sorts of meetings and the like, particularly during the winter months when nothing else is in bloom except florist's flowers. I take them to the library, doctor's office (mine), nursing homes, etc., and for years have had "flower day" at my local bank. All the employees get a choice bloom and enough are left over for floral displays in the lobby. The story goes that many customers remark "I see Col. Hicks has been here today." On several occasions I have done displays (175 or so different varieties with name under each one) for special local functions for out-of-town visitors. It is a rewarding experience to share my beauty with others but it is not unusual for me to have to not only deliver the flowers but go back and pick up my baskets!! Of course, I also share blooms with the local hospital. My only criticism is that they will not throw them out the next day, but keep them so long that they are (to me) an eyesore rather than a thing of beauty.

"I had temperature somewhere around 6 to 10 degrees while away from home but suffered no noticeable foliage damage to outside plants except all of my few "Early" and some of my fine with new growth and excellent bud set this year. I do not show grown-in-the-open flowers but had some that bloomed well enough (Magnoliaflora, Berenice Boddy, etc.) to have taken a show even after the low temperature."

A very timely and thoughtful report from our friend, Walter Dunn, of the North Louisiana city of Monroe, speaks for itself:

"The spring and summer of 1984 have been inventory time for camellia growers in North Louisiana. I think that most of us are in agreement that camellias sustained more damage during the past December and January freezes than at any other period in our memories. Large plants which had survived decades of sometimes severe temperatures were either killed or seriously damaged. The majority of last year's grafts were killed. Within the past week (mid-July), I have visited a number of gardens

where large camellia plantings had survived previous freezes, many of them had been killed outright or had bark so badly split that survival is dubious.

"The amazing thing to me was to find that most growers were fertilizing and watering the spindly plants, and that they were determined to see their camellias survive. In instances of total loss they were making plans to visit nurseries in the early fall for replacements. *A number of enthusiasts with whom I talked displayed the fervor of an old time revivalist. They were concerned over the possible discouragement which might beset new growers or owners, and in several instances they had plans to make gifts of new plants to those novices. That is the spirit of true camellia lovers.* (Emphasis by Editor.)

"One lives, grows complacent and careless and is suddenly given a rude shock into the world of reality. During my childhood, a popular recording among people whose taste in music was somewhat questionable was 'Mama Don't Allow no Low'down Foolin' Around.' Neither do camellias. Last spring I had overly extended myself with numbers of those tasks which befall newly retired persons. I simply did not have the time to follow my usual practice of carefully mixing the potting soil for my container grown camellias. Instead, I used a commercial potting mix altogether. The result? I've lost about twenty plants with root-rot! That mistake won't be repeated, but two hundred-dollar lessons are quite expensive.

"I recently visited a very dear friend who is in his mid-eighties. He has been a camellia enthusiast for years and has both inspired and taught many beginning growers. I have never known a finer Christian gentleman. This man's eyesight has deteriorated seriously during the past year and he is no longer capable of giving his plants the care which he had always given them in the past. As I observed him feeling for buds and realized the severity of his handicap, I was conscience stricken for not having offered my assistance with pruning or fertilizing. Belatedly, it dawned upon me to offer to assist when gibbing time comes. *Horticulturally speaking, how many of us are negligent in offering a hand to our older camellia friends? Think it over.*" (Emphasis by Editor.)

And now, this concise and encouraging report from

Frank Serpa of Fresno, California:

"For some reason, be it the weather or whatever, the growth and budset is almost unbelievable. I have asked several members, and they are all doing the same as to fertilization and grooming, so really it is unexplainable.

"The bud set and growth is the best it has ever been, so we should have a good Camellia year. We may have to change our gibbing pattern, because of the fact that we have had twenty-four days of over 100 degrees in the month of July. The average for the month was 106. This has brought on every crop in California about three weeks early. So it will bear watching to see how the buds develop.

"As a rule, we gib the end of August to hit our Camellia-Rama, which is usually the first weekend in November. Then I gib starting the middle of October to the middle of December, about every ten days. This gives a choice of blooms for the different shows.

"About three days to a week, when the blooms are still on the plant, I wipe the leaves clean with a piece of ladies' nylons, so that when I pick the blooms are almost ready for the show.

"For the last two years, 25 different Garden and Social Clubs have gotten together to sell plants, food and other garden wares, to benefit the Asthmatic Children's Camp. We had a booth and contributed a large amount to the American Lung Association. Besides the goodwill, we feel that we had a terrific exposure to several hundred people who are interested in gardening. We also picked up several new members — so this is food for thought!"

And from Lois Boudreaux of Port Neches, Texas:

"At the early date that this must be written, we are not sure what the future camellia season holds, but our present feeling is that it will be a rather good one despite the very severe cold weather last December.

"Because of severe pruning, there do not seem to be as many buds, but those that are there are really nice fat ones — seemingly rather large for this early in the season.

"Most foliage that was freeze-damaged has either been cut off or dropped off and has been replaced by lush new growth. The plants are a deep, rich, dark green. Growth has been excellent during the summer.

"We had ample rain in this section during the spring but had a couple of rather dry periods during the summer. During the first half of August we have had ample rain.

"We are eagerly looking forward to beginning the gibbing program which we usually start around Labor Day.

"Our 'Francie L' looks as though it has never seen really cold weather even though it does not grow in a protected spot. Growth this summer has been so rapid it really needs pruning at this time."

—ACS—

Valuable and Useful Books On Camellias

The following books are available only through the American Camellia Society, P. O. Box 1217, Fort Valley, GA. 31030. (Georgia residents add 4% sales tax.)

THE CAMELLIA — Its History, Culture, Genetics and a Look Into Its Future Development, Feathers, David L. and Brown, Milton H. 476 pages of all phases of camellias and camellia culture, profusely illustrated to include 25 pages in color. Cost is \$12.50 postpaid. The most comprehensive book in English in many years. 6" x 9".

Colour Dictionary of Camellias, Macoboy, Sterling. Over 200 pages of more than 500 camellias in full color. Book size 9½" x 12½". Cost is \$35.00 plus \$2.50 postage and handling.

The Camellia Story, Durrant, Col. T. A study of the botanical, horticultural, literary and social history of camellias. 160 pages with over 200 color photographs to illustrate the lively text. 8½" x 11½". Cost is \$47.95 plus \$2.00 postage and handling.

WELCOME TO BOB WINES NURSERY

Stroll through our 30-year-old camellia gardens...see one of the south's largest gardens offering over 700 varieties of old and many of the new camellias on 3½ acres, all shaded by planted pine trees. Visit our greenhouse, where in our special soil, the container-grown camellias range from one to 30 gallons. Our gardens are open from November to April, Monday thru Saturday.

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The Camellia, Savage, T. J. and Longhurst, Peter. 158 10" x 12½" pages. Interesting text by T. J. Savage, with 53 pages of paintings of varieties by Peter Longhurst. Cost is \$41.50 plus \$2.50 postage and handling.

An added textual attraction to camellia growers and their friends is the interesting *Head Table Cooks* with its more than 825 recipes by known camellia growers, most of them members of the

American Camellia Society. The book is international in flavor and not just a regional cookbook. Many original sketches by James McCoy are interspersed to head each of the separate sections. Cost is \$12.50 plus \$2.50 postage and handling.

(NOTE: Overseas members should add an additional \$2.00 per book for postage and handling.)

ACS

More Camellia Information

The following is a list of pamphlets that may be obtained from your local extension agent. These pamphlets are free or may be obtained for a minimal cost. They contain much valuable information on camellia culture. If your state is not listed, check with your extension agent to see if we overlooked it or if there is no information available. Encourage your state to publish information on camellias by showing an interest!

<i>Title</i>	<i>State</i>	<i>Number</i>
The Camellia and its Culture	Alabama	Circular ANR-202
Camellia Insect Control	Alabama	Circular E-7
Camellias in Florida	Florida	Circular 461
Camellia Culture for Home Gardeners	Georgia	Bulletin 813
Gibbing Camellias	Georgia	Leaflet 119
Camellia Flower Blight	Louisiana	Publication 1547
Camellias	Louisiana	Publication 1791
Camellias for the Yard	Louisiana	Bulletin 391
Landscaping the Home Grounds	Mississippi	.
Successful Camellia Culture	North Carolina	Circular 543
How to Grow Azaleas and Camellias	North Carolina	Ext. Folder 185
Controlling Diseases & Insects in Camellias	North Carolina	Leaflet 175
Cottony Camellia & Brown Soft Scale and their Control	Oregon	FS 3
South Carolina Camellias	South Carolina	Circular 572
Growing Camellias	U.S.D.A.	Home & Garden Bull. 86
Insects on Trees and Shrubs around the House	U.S.D.A.	Home & Garden Bull. 214

* Published by State Board for Vocational Education, Jackson, Miss.

ACS

Camellia Society of the Potomac Valley Sets Up Camellia Research Program

A program to encourage continued research in problems of camellia growing in the area served by the Camellia Society of the Potomac Valley has been established by Society, as of July 21, 1984. The program to be known as the Camellia Society of the Potomac Valley Research Program, is established for an initial period of three years with an annual fund of \$500.00 from the treasury of the Society, augmented by donated funds, for which a campaign will be launched among members of the Society.

Project proposals for grants will be received from individuals or organizations setting up specific research projects consistent with the objectives of the program. Grants will then be reviewed and approved by the Research Standing Committee.

The Chairman of the Standing Committee is Dr. Arthur Maryott. Other members are Dr. William L. Ackerman, recently retired from the USDA and whose career of research has included research achievements in camellia problems of the geographical area which CSPV serves, who will also be Chief Advisor to the Committee; Dr. Philip Ireland; Mr. O. Preston Davis and the President of the Society, *ex officio*.

Stringfellow to Chair E&A Committee

Roy C. Stringfellow, a President Emeritus of ACS, has been appointed to be the Chairman of the Exhibition & Awards Committee which had been so successfully chaired by the late Clyde X. Copeland for the past several years.

This very important committee has as its responsibility all matters concerning the camellia shows, the appointment of judges, the selection of subcommittees to pick the major national camellia awards each year. In addition, it oversees the Rules and Regulations of ACS Cooperative Camellia Shows and would recommend any changes in these rules and regulations to the Governing Board.

If you have any comments or suggestions concerning the affairs of this committee, you can contact Roy C. Stringfellow, 746 Elmwood Street, Shreveport, LA 71104.

ACS

Gus Gerbing Memorial Camellia Garden

DR. ASA BARNES

The Gus Gerbing Memorial Camellia Garden in Fernandina Beach, Florida, will be located in a shaded area at the rear of the Eighth Street branch of the Florida National Bank. G. G. ("Gus") Gerbing, a Charter Member of The American Camellia Society, was long known as the "Mister Camellia" of Northeast Florida. The Gerbing Camellia Nursery he started in 1923 continued to supply growers until it went out of business in 1976.

The Men's Garden Club of Fernandina Beach and the Gerbing family are cooperating in establishing the new garden. Several of the cultivars placed in the garden are some grafts made by Gus Gerbing during the last months before his death in January of this year.

It was necessary to make only a small beginning due to the losses suffered locally in the December freeze. It is expected that the club members and Gus Gerbing's many friends will furnish additions to make this Gus Gerbing Memorial Camellia Garden a show place.

Through the Year With Camellias

JANUARY — Show season is in full swing and the camellia grower is enjoying the fruits (or flowers) of his labor.

FEBRUARY — Many places are at the height of the outdoor blooming season this month. Remember, plants need watering in the winter, too, during a dry spell. This is a popular month for grafting new varieties.

MARCH — Blooms are still lovely, but the season is drawing to a close. Pruning may begin this month. Apply the first application of fertilizer to encourage new growth.

APRIL — Plants should be sprayed for scale and insect control before the temperature gets too high. Do not spray with dormant oil when the temperature goes above 80° F.

MAY — Camellias are growing rapidly at this point and need moisture. Water your plants if it does not rain for 10 days.

JUNE — Apply the second dose of fertilizer to encourage flower bud set. Continue to water.

JULY — Care during the summer is often reflected in blooms. Consistent watering is important to develop good root systems.

AUGUST — Late in the month you may want to begin gibbing (be sure to order your A.C.S. *Gib* ahead of time). Remember to water during dry periods. Disbudding may begin this month.

SEPTEMBER — Gibbing is in full swing during this month. Spread your applications out to several sessions. You may want to fertilize, but don't apply any nitrogen (N). Continue to disbud.

OCTOBER — You should be seeing the results of some early gibbing late this month. You can spray dormant oil before blooming season if scale is a problem. *Camellia sasanquas* are beginning to bloom at this time.

NOVEMBER — Fun, fun, fun! Flower shows begin. Be sure to bring your best blooms to Massee Lane for the Fall Show the second weekend of each November.

DECEMBER — More fun, fellowship, and flowers at the shows.

This is only a general outline because we realize that camellia culture varies from location to location and even from grower to grower. However, we hope that you can add to, or use this outline to prepare your own.

—ACS—

FUTURE MEETINGS OF THE ACS

November 8-10, 1984 Hqrs., Holiday Inn, Perry, GA, Perry/Fort Valley, GA
 January 17-20, 1985 Hqrs., Ramada Inn I-65, Mobile, AL
 November 14-17, 1985 Houston, TX
 April 3-6, 1986 Hqrs., The Omni International, Norfolk, VA
 Fall 1986 (Date not yet Determined) Pensacola, FL
 April 3-6, 1987 Hqrs. Thunderbird Motor Inn, Portland, OR

—ACS—

Ray Gentry Celebrates The Big 72

Ray Gentry on November 18th will celebrate "the big 72." Friends wish him a Very Happy Birthday with many, many more to come. The following have made contributions to the Endowment Fund to honor Ray on his big Day; Mrs. Temple P. Bowen, Dr. & Mrs. R. P. McDonald, Dr. & Mrs. Daniel E. Nathan, Mr. & Mrs. Milton H. Brown. HAPPY BIRTHDAY RAY!

Memorial Donations

(The name in boldface type indicates the person in whose memory the donation has been made as of August 30, 1984.)

Mrs. W. T. Adkisson, Beaumont, TX
 Southeast Texas Camellia Society
Mr. R. L. Arnold, Fort Worth, TX
 Mr. & Mrs. Charles B. Malone, Jr.
 Mr. & Mrs. Kermit E. Agee
Mrs. R. L. Bell and Elizabeth Bell (Daughter-in-law and granddaughter of Mrs. Roselle Bell, Cairo, GA)

Dr. & Mrs. Daniel E. Nathan
 Mr. & Mrs. Milton H. Brown
Mrs. Angus Bell Birdsey, Macon, GA (Died February 9, 1984)
 Mr. Isaac Flatau
Mr. Temple P. Bowen, Fort Worth, TX (Died January 1984)
 Mr. & Mrs. Robert A. Sansing, Jr.
 Mr. & Mrs. Kermit E. Agee
 MR. & Mrs. W. F. Mann
Mrs. C. V. Bozeman, Hattiesburg, MS
 Mr. & Mrs. Ray Gentry
Mr. W. T. Bridges, Byron, GA
 Dr. & Mrs. Earl Beatty, Jr.
Mr. Larry Eugene Brown, Macon, GA
 Mr. & Mrs. Wyman J. Priestler, Jr.
Mr. Ralph V. Connall
 Miss Jamie Houser
Mrs. R. C. Cook, Albany, GA
 Mr. & Mrs. Bagby Hall
Mr. John L. Cope, Savannah, GA (Died November 1983)
 Mr. & Mrs. Carl M. Allen, Jr.
Mr. Clyde X. Copeland, Jackson, MS (Died August 11, 1984)
 Mr. Joseph H. Pylon
 Mr. & Mrs. Milton H. Brown
 Dr. & Mrs. Daniel E. Nathan
 Mr. & Mrs. Thomas C. Evans
 Mr. Roy C. Stringfellow
 Dr. Fred Lee
 Mr. & Mrs. Charles B. Malone, Jr.
 Mr. & Mrs. Ray Gentry
 Dr. & Mrs. H. L. Berridge
 Mr. & Mrs. Henry S. Stone
 Mr. William P. Kemp
 Jackson Camellia Society
 Mr. & Mrs. G. Stuart Watson
 Judge & Mrs. Sherrill Halbert
 Mr. & Mrs. Douglas Deane Hall
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 Mrs. Charles F. Urquhart, Jr.
 Mr. & Mrs. Jack Greenberg
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 Mr. Thomas H. Perkins, III
 Mrs. William B. Johnston
 Mr. & Mrs. C. O. Zagst
 Mr. & Mrs. W. F. Mann
 Mr. & Mrs. Bagby Hall
 Mr. & Mrs. Carl M. Allen, Jr.
 Mr. & Mrs. W. T. Shepherd

Show Dates

(ACS Cooperative Shows)

Dr. & Mrs. Herbert Racoff
 Mr. & Mrs. Leon Wheelless
 Mr. & Mrs. C. C. Crutcher
 Mrs. Charles C. Mason
 Dr. & Mrs. Luther W. Baxter, Jr.
 Mr. & Mrs. W. M. Plaster
 Mr. H. B. Copeland
 Mary Lee Copeland
 Mr. & Mrs. I. John Movich
 Mr. & Mrs. Wendell H. Copeland
 Dr. & Mrs. J. M. Habel, Jr.
 Mr. & Mrs. Thomas E. Hughes
 Mr. & Mrs. G. Ernest Harrison
 Mr. & Mrs. A. B. Cooper
 Mr. & Mrs. G. F. Abendroth
 Mr. & Mrs. Julius Nuccio
 Margaret C. Weems
Mrs. Edward S. Cram
 Mr. Isaac Flatau
Mrs. Clifton C. Coward, Baltimore, MD (Died March 1984)
 Miss Julia H. Burton
Dr. L. C. "Jack" Davis, Jr., Tuscaloosa, AL (Died June 27, 1984)
 West Alabama Camellia Club
 Mr. & Mrs. Robert Alexander
 Mr. & Mrs. Milton H. Brown
 Mr. Roy Stringfellow
 Dr. & Mrs. Earl Beatty, Jr.
 Dr. Fred Lee
 Mr. & Mrs. Ray Gentry
 Mr. Joseph H. Pyron
 Mr. & Mrs. Clyde X. Copeland
 Mr. & Mrs. A. B. Cooper
 Mrs. Harry H. Hendon
 Col. & Mrs. R. D. Hicks
 Mrs. Leslie Richard
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 Mr. & Mrs. G. Ernest Harrison
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 Mr. & Mrs. C. Boynton Cole
 Birmingham Camellia Society
 Mr. & Mrs. Scott H. Black
 Mr. & Mrs. John Geiser
Mr. George W. Dehn, Shreveport, LA
 Mr. & Mrs. Henry S. Stone
 Mr. Roy C. Stringfellow
 Mr. & Mrs. G. F. Abendroth
 Mr. & Mrs. L. E. Kneipp
 Mr. & Mrs. Sam Grissom
 Dr. Fred Lee
 Mr. & Mrs. W. F. Mann
Mr. Willard Everett, Jr., Albany, GA
 Mr. & Mrs. G. Stuart Watson
 Mrs. Jack H. Tribble
Mr. Thomas Benton Fatheree, Jackson, MS (Died June 19, 1984)
 Mr. & Mrs. Ray Gentry
 Mr. F. F. Becker, II
 Jackson Camellia Society
 Mr. & Mrs. R. C. Carter

<i>Place, Location, Sponsor</i>	<i>Date</i>
Columbia, SC; SC State Fair; Mid-Carolina Camellia Society & SC State Fair Association	October 27-28, 1984
* Charleston, SC; Magnolia Plantation & Gardens, 2nd Annual Camellia Festival; Coastal Carolina Camellia Society	November 4, 1984
Shreveport, LA; R. S. Barnwell Art Center, 501 Fant Parkway; Shreveport Camellia Society	November 3-4, 1984
Fresno, CA; Camellia-Rama, Smuggler's Inn, Central California Camellia Society	November 3-5, 1984
Greenville, AL; Greenville Camellia Society	November 3-4, 1984
Fort Valley, GA; Massee Lane, ACS Headquarters; Middle Georgia Camellia Society (In Conjunction with 35th Annual Fall Meeting of ACS)	November 10-11, 1984
Beaumont, TX; Parkdale Mall, 6155 Eastex Freeway; Southeast Texas Camellia Society	November 17, 1984
Valdosta, GA; Valdosta Mall; Valdosta Camellia Society and 1st State Bank	November 17-18, 1984
Gulfport, MS; Harrison County Court House; Gulfport Area Camellia Society	November 17-18, 1984
Charleston, SC; First Federal Savings & Loan Association, 34 Broad St.; Coastal Carolina Camellia Society & First Federal Savings & Loan	November 17-18, 1984
Fort Walton Beach, FL; Westwood Retirement Center, Fort Walton Camellia Society	November 24, 1984
Gainesville, FL; Oaks Mall; Gainesville Camellia Society	November 24, 1984
Tallahassee, FL; Northwood Mall; Men's Camellia Society of Tallahassee	November 24-25, 1984
Albany, GA; Albany Mall, Dawson Rd.; Men's Garden Club of Albany	December 1, 1984
Hattiesburg, MS; Cloverleaf Mall; Hattiesburg Area Camellia Society	December 1, 1984
Jacksonville, FL; Grande Boulevard Mall; Camellia Society of North Florida	December 1-2, 1984
Slidell, LA; Municipal Auditorium; Ozone Camellia Club	December 1-2, 1984
Jacksonville Beach, FL; Jacksonville Beach Community Center; Island of Beaches Camellia Society	December 8-9, 1984
Pensacola, FL; Mariner Mall; Men's Camellia Club of Pensacola	December 8-9, 1984
Lafayette, LA; Natural History Museum & Planetarium, 637 Girard Park Drive; South Louisiana Camellia Society	December 8-9, 1984
Brookhaven, MS; Main Office, Brookhaven Bank & Trust Co.; Brookhaven Camellia Society	December 8-9, 1984
Panama City, FL; Panama City Mall; Panama City Camellia Society	January 5-6, 1985
Baton Rouge, LA; Louisiana National Bank Building; Baton Rouge Camellia Society	January 5-6, 1985
Conroe, TX; Woodlands; Coughatta Camellia Society	January 11-12, 1985
New Orleans, LA; Camellia Club of New Orleans	January 12, 1985
Orlando, FL; Leu Gardens, 1730 Forest Avenue; Camellia Society of Central Florida	January 12-13, 1985
Ruston, LA; Holiday Inn; Ruston Men's Camellia Society	January 12-13, 1985
Dallas, TX; Dallas Camellia Society	January 19, 1985
Aiken, SC; Kennedy Middle School; Aiken Camellia Club	January 19-20, 1985
Charleston, SC; Citadel Mall; Hwys. 17 & 7; Coastal Carolina Camellia Society & Citadel Mall	January 26, 1985
Tuscaloosa, AL; West Alabama Camellia Club, Inc.	January 26-27, 1985
Fort Walton Beach, FL; Santa Rosa Mall; Fort Walton Camellia Society	January 26-27, 1985
Shreveport, LA; R. S. Barnwell Art Center, 501 Fant Parkway; Shreveport Camellia Society	January 26-27, 1985
Jackson, MS; Plaza, Walters Sillers Building; Jackson Camellia Society	February 2-3, 1985
Charlotte, NC; Eastland Mall; Charlotte Camellia Society	February 2-3, 1985
Lakeland, FL; First Federal of Florida, First Federal of Florida	February 2-3, 1985
Beaufort, SC; Lady's Island Jr. High, Hwy. 21; Council of Beaufort Garden Clubs	February 9-10, 1985
Birmingham, AL; Eastwood Mall; Birmingham Camellia Society, Inc.	February 9-10, 1985
Columbia, SC; Columbia Mall; Merchants Association & Mid-Carolina Camellia Society	February 9-10, 1985
Atlanta, GA; Lenox Square, North Georgia and Atlanta Camellia Societies	February 16-17, 1985
Monroe, LA; Downtown Branch, Central Bank; Northeast Louisiana Camellia Club	February 16-17, 1985
Fort Worth, TX; Fort Worth Botanical Gardens Center, 3220 Botanic Drive; Fort Worth Camellia Society	February 17, 1985
Mobile, AL; Camellia Club of Mobile (In Conjunction with ACS 40th Annual Meeting)	February 23, 1985
Wilmington, NC; Independence Mall; Tidewater Camellia Club	February 23, 1985
Ocala, FL; Paddock Mall; Ocala Camellia Society	February 23-24, 1985
Chattanooga, TN; Chattanooga Camellia Club	February 23-24, 1985
Jamaica Plain, MA; Arnold Arboretum, Hunnewell Visitors' Center; Massachusetts Camellia Society	February 24-25, 1985
Nashville, TN; Tenn. Botanical Garden at Cheekwood; Middle Tennessee Camellia Society	March 2-3, 1985
Portland, OR; Thunderbird Motor Inn; Oregon Camellia Society (In Conjunction with ACS 42nd Annual Meeting)	April 4-5, 1987

* Changes from August issue.

ACS

Mr. & Mrs. Clyde X. Copeland
 Mr. Roy C. Stringfellow
Mr. Walter T. Forbes, Sr., Marshallville, GA (Died August 16, 1984)
 Mr. & Mrs. Milton H. Brown
Mr. John W. Freeman, Orlando, FL (Died March 29, 1984)
 Mrs. William B. Johnston
Mrs. Cora Hallman, Fort Valley, GA (Died July 8, 1984)
 Mr. & Mrs. Milton H. Brown
Mrs. John Paul Harkey, Idabel, OK (Mother of Judge Paul Harkey, Dallas, TX)
 Dr. & Mrs. Michael R. Vitale
Mr. Dave Henderson, New Zealand
 Mr. & Mrs. Henry S. Stone
Mrs. William P. Kemp, Goldsboro, NC (Died May 20, 1984)
 Mr. & Mrs. Henry S. Stone
 Mrs. Charles C. Mason
 Mrs. Leslie Richard
 Mr. & Mrs. C. Boynton Cole

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Camellias Registered with the ACS Since the August 1984 Journal

Name and Description	ACS Registry Number	Originator
'Ginette Walters,' large, white with pink splashes, peony to rose form double <i>C. japonica</i> chance seedling, mid-season	1947	Ferol & Sam Zerkowsky
'Giorgio's Pride,' very large, dark red, semidouble <i>C. reticulata</i> ('Crimsons Robe' x 'Mary Stringfellow'), mid-season to late	1948	Frank Pursel
'Dr. William D. Battle,' large to very large, soft pastel spinel pink, semidouble <i>C. reticulata</i> hybrid (<i>C. reticulata</i> 'Buddah' x <i>C. fraterna</i>), early to late	1949	Barbara Butler
'Cherries Jubilee,' large, burgundy red with red and white petaloids intermingled with stamens, semidouble to rose form double <i>C. japonica</i> chance seedling, mid-season	1950	Nuccio's Nurseries
'Mariann,' large red, anemone to peony form <i>C. japonica</i> chance seedling, early to late	1951	Wilkins Garner
'Donnan's Dream,' large, white washed and shaded orchid pink, formal double <i>C. japonica</i> chance seedling, early to late	1952	Nuccio's Nurseries
'Scarlet Glory,' very large, scarlet, semidouble <i>C. japonica</i> chance seedling, mid-season	1953	Nuccio's Nurseries
'Standing Ovation,' very large, deep red, semidouble <i>C. japonica</i> chance seedling, mid-season	1954	Nuccio's Nurseries
'Nuccio's Cameo,' large, coral pink, rose form double to formal double <i>C. japonica</i> chance seedling, early to late	1955	Nuccio's Nurseries
'Happy Holidays,' large, light pink, formal double <i>C. japonica</i> chance seedling, early to mid-season	1956	Nuccio's Nurseries
'Prima Ballerina,' large, white washed and shaded orchid pink, semidouble <i>C. japonica</i> chance seedling, mid-season to late	1957	Nuccio's Nurseries
'Winner's Circle,' very large, salmon pink, semidouble to peony form <i>C. reticulata</i> chance seedling, mid-season	1958	Nuccio's Nurseries
'Sweet Dreams,' large, pale orchid pink, formal double <i>C. japonica</i> chance seedling, mid-season to late	1959	Nuccio's Nurseries
'Charles R. Butler,' large to very large, cerise pink, semidouble <i>C. hybrid</i> chance seedling, mid-season to late	1960	Belle Fontaine Nsy.

—ACS—

Camellia Society of North Florida
Mrs. Ernest E. Pieri, San Gabriel, CA (Died August 9, 1984)
 Mr. & Mrs. I. John Movich
 Mr. & Mrs. Milton H. Brown
 Mrs. William B. Johnston
 Mr. & Mrs. Thomas E. Hughes
Suzanne Overby Priestler, Savannah, GA
 Mr. & Mrs. Wyman J. Priestler, Jr.
Ann Shaheen Shackelford, Macon, GA
 Mr. & Mrs. Wyman J. Priestler, Jr.
Dr. John W. Vaughn, Lakeland, FL (Died February 28, 1984)
 Mr. & Mrs. Ivan J. Mitchell
Mr. Felton J. Walker, Marshallville, GA (Died June 23, 1984)
 Mr. L. V. Teeter
 Mr. & Mrs. Milton H. Brown
 Dr. & Mrs. Daniel E. Nathan
 Dr. & Mrs. Earl Beatty, Jr.
 Mr. Joseph H. Pyron
Mrs. George Wolfe, Aiken, SC (Mother of Mrs. Paul Dahlen, Aiken, SC)
 Mr. C. T. Freeman
 Mr. & Mrs. Milton H. Brown
 Mr. & Mrs. Lewis M. Fetterman
 Mr. & Mrs. William C. Robertson
 Mr. & Mrs. W. T. Shepherd
 Mr. & Mrs. A. Wilkins Garner

Dr. & Mrs. H. L. Berridge
 Mrs. William B. Johnston
Dr. Curtis C. Knight, Fresno, CA
 Central California Camellia Society
Col. Clifford J. Mathews
 Miss Jamie Houser
Edith McKenzie Mathews
 Miss Jamie Houser
Mrs. Walter McEachern, Wilmington, NC
 Mrs. Sam Hutaff
Mr. Leroy E. Morrison, Baton Rouge, LA
 Mr. & Mrs. Henry S. Stone
 Mr. Charles S. Gaienne, Jr.
Mr. E. B. Peterson, Jacksonville, FL (Died April 9, 1984)
 Mr. & Mrs. Marion S. Edwards
 Mr. & Mrs. Marlin Johnson

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(As of August 30, 1984)

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Mr. Roy C. Stringfellow

Mr. W. F. Mann

Mrs. W. F. Mann

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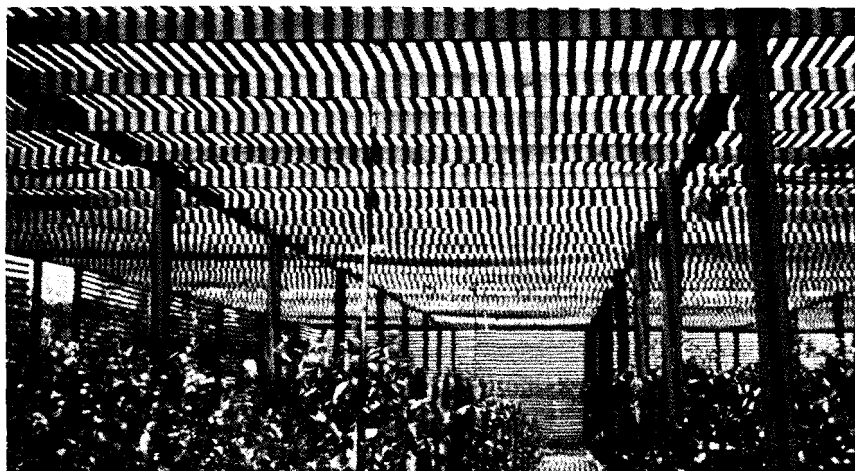
Mr. Floyd E. Carithers

—ACS—

Special Gifts

Mr. & Mrs. M. F. Hodges: American Camellia Yearbooks
 Mrs. Paschal Muse and Mr. & Mrs. Milton H. Brown: Contribution wishing a happy birthday to Mr. Don Mitchell
 Mr. & Mrs. Atlee W. Davis: Contribution in honor of camellia work by Dr. & Mrs. Jack Davis
 Dr. & Mrs. Daniel E. Nathan and Mr. & Mrs. Milton H. Brown: Contributions wishing a happy birthday to Les Marbury, Mrs. Thomas C. Evans and Nuccio's Nurseries; and contributions wishing a speedy recovery to Julius Nuccio
 Mr. Ken Cook: Contribution to ACS for sale of sprayer
 Gulf Coast Camellia Society: Contribution to ACS
 Mr. & Mrs. Milton H. Brown: Contributions wishing a happy birthday to Arthur Vinson; wishing a speedy recovery to Mrs. Emil Carroll and Mr. James H. McCoy
 Adiel Ware: 840 Begonia plants for gardens
 Mr. & Mrs. John Cranshaw (One Horse Farms and Gardens): Two peacocks and two peahens

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Symposium on Camellias at University of California

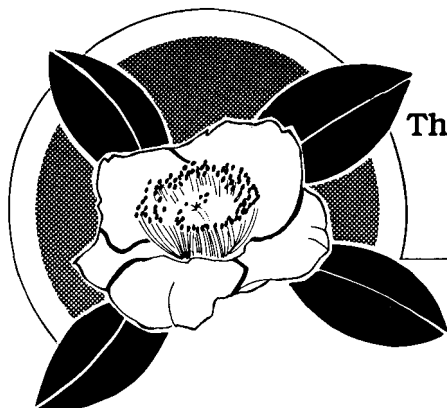
JACK OSEGUEDA

In an effort to educate the public to grow more and better Camellias, the "Friends" of the U.C. Botanical Garden and the Northern California Camellia Society Research Committee will present a Symposium on Camellias February 1, 2 and 3, 1985 at the University of California. With all facilities of the World's largest University in Berkeley, this promises to be an event the amateur and expert will benefit from.

Many bay-area garden clubs are being contacted to sponsor scholarships and registration for students to the Symposium to get more young people to join our societies and grow camellias in California. It is sad to note that of the hundreds of Horticulture students in this area, so few know about the lovely camellia and how well they grow in our mild climate.

The program will feature many of the top camellia authorities of California including Sergio Bracci, Meyer Piet and Lee Gaeta from Southern California to exploit *Camellia chrysantha* which they have bloomed — and it's yellow! ACS Immediate Past President Jack Mandarich, ACS and ICS Director William D. Stewart, David Feathers, Robert Ehrhart, Cathy Morton, Jack Osegueda, C. Adair Roberts, Don Bergamini, Jim Toland and Dr. Robert Raabe are all featured on the program and the workshops covering Culture, Propagation, Hybridizing, etc. For those interested in Fragrance in Camellias, Ken Hallstone will give all his knowledge on this painstaking project. And to excite everyone, Dr. Bruce Bartholomew will give his experiences on collecting camellias in China. He has just returned from his third long trip, this one 5 months in the remotest areas of China collecting dozens of new species!

The final day after the program on Landscaping with Camellias, busses will take all participants on tour of Woodford Harrison's Garden, David Feathers' huge garden and Ken Hallstone's garden with all the fragrant Camellias. (See ad on adjacent page.)



The Friends of the Botanical Garden
and
The Northern California Camellia Society Research Committee
present

Symposium on Camellias

Botanical Garden Berkeley
University of California

February 1, 2, and 3, 1985

PROGRAM

FRIDAY, 1 FEBRUARY

3:00 to 6:30 p.m. Registration and Reception

SATURDAY, 2 FEBRUARY

8:30 a.m. Late registration and coffee

9:00 a.m. Opening remarks by Jack Mandarich

Collecting Camellias in China Dr. Bruce Bartholomew

Camellia chrysantha: The Golden Camellia Meyer Piet

The Fragrant Camellia Kenneth Hallstone

Other well known authorities on the program include: Russell Beatty, Don Bergamini, Sergio Bracci, Robert Ehrhart, David Feathers, Lee Gaeta, Cathy Morton, Jack Osegueda, Dr. Robert Raabe, C. Adair Roberts, William D. Stewart, and Jim Toland.

Workshops

SUNDAY, 3 FEBRUARY

9:00 a.m. Landscaping with Camellias

Tour of Feather's, Hallstone's, and Harrison's Gardens.

REGISTRATION

First Person	_____
Second Person	_____
Affiliation	_____
Address	_____
Telephone	_____
	ZIP _____
	Arriving? ☐ Friday ☐ Saturday

Registration Fees: (U.S. Dollars) Sent prior to January 1, 1985, \$100.00. After January 1, \$115.00.

Registration fee includes 2 box lunches, a dinner, a breakfast, coffee breaks, reception, and the tour.

Mail your registration form with fee enclosed to:

Symposium on Camellias
c/o UC Botanical Garden
Centennial Drive
Berkeley, CA 94720

WORKSHOP SELECTION (select in order of preference. Participants may attend three workshops.)

- _____ A: Camellia Species
- _____ B: Culture
- _____ C: Propagation
- _____ D: Hybridizing
- _____ E: Pests and Diseases

Registrations are limited to 150 participants

Make check payable to **Symposium on Camellias**

Cancellations must be received in writing no later than Jan. 21. No refunds due to cancellations will be honored beyond that date.

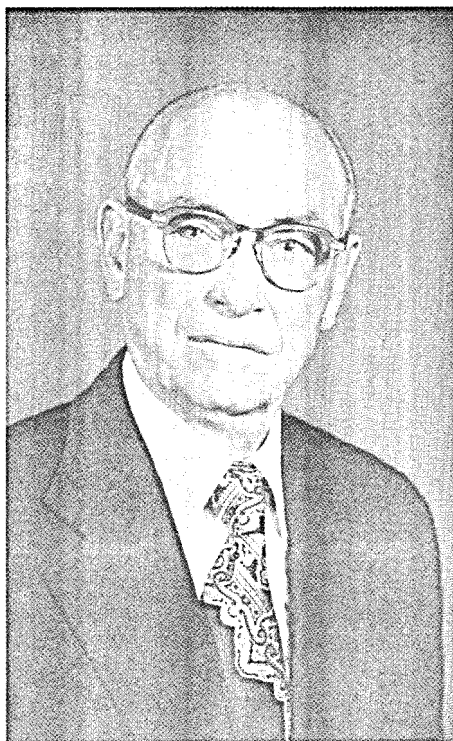
ACCOMMODATIONS:

The Shattuck Hotel, 2086 Allston Way, Berkeley, CA 94704, is holding a block of rooms for the Symposium participants. Rates will be, per night, \$42.90 single/\$48.40 double occupancy. The hotel management requests that all reservations be made by January 1, 1985. After this date, rooms will be reserved at the regular room rate.

☐ Yes, please send me a hotel reservation card.

In Memoriam

CLYDE X. COPELAND



Clyde X. Copeland of Jackson, Mississippi died August 11, 1984 after a sudden illness. Clyde was born in Norfolk, VA on March 24, 1908. He went to Mississippi in 1930 to work with the State Board of Health and he continued to serve the people of his state until his retirement several years ago.

Clyde got his interest in camellias from a visit to Bellingrath Gardens many years ago. When Jackson had its first show he and Dorothy won the Outstanding Bloom of the Show with an 'Adolph Audusson Special.' He and Dorothy have been constant winners in camellia shows throughout the camellia world. They have always shared their great knowledge with anyone interested in camellias. He served the camellia growers of Mississippi as their State Director of ACS and was twice elected as ACS President — in 1972 and 1973. He served as a Trustee on the ACS Endowment Fund and ACS President Emeritus until the time of his sudden death. His dedication and devotion to the affairs of the ACS are well known. The Society honored Clyde by dedicating the 1975 issue of "The American Camellia Yearbook" to him. Also in 1982 he was awarded the coveted ACS Bronze Plaque. Even during the week he was stricken he made a very careful review of the new ACS and ACS Endowment Fund Charters and Bylaws; his suggestions will improve these important documents.

He is survived by his wife Dorothy at their home at 5308 Saratoga Dr., Jackson, Mississippi 39211 and their sons Dr. Clyde X. Copeland, Jr. in Jackson and Floyd Dean Copeland an attorney in Atlanta, Georgia.

All of us mourn his sudden death. We will miss his knowledge and his outstanding good humor at our meetings and shows.

American Camellia Society Annual Meeting

JANUARY 17-20, 1985

MOBILE, ALABAMA — RAMADA INN I-65

TENTATIVE PROGRAM

Thursday, January 17, 1985

- 12:00 Noon-6 p.m. — Registration
- 2:30 p.m. — Board Meetings
- 5:30 p.m.-7 p.m. — Get Acquainted Party (Cash Bar)

Friday, January 18, 1985

- 8:30 a.m. — Tour Flowerwood Nursery Camellia Houses and Bellingrath Gardens

Lunch on own at Bellingrath

- 12:30 p.m. — Board buses for Motel.
- 1:30 p.m.-4:30 p.m. — Educational Seminars
- 5 p.m. — Board buses for Belle Fontaine Nursery
- 5:30 p.m. — Cocktails

Seafood Jamboree at Bayley's Ranch Club

Saturday, January 19, 1985

- 12:00 Noon — Luncheon (Ramada Inn I-65)
- 6 p.m.-7:30 p.m. — Cocktails (Cash Bar)
- 7:30 p.m. — Annual Banquet

For Ramada Inn bus service — notify Inn of time and date of arrival and departure. Cool room for blooms for Saturday and Sunday Show. Shuttle back and forth to show.

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Lake Charles
Mrs. Onis D. Hyatt (Nov.)

MISSISSIPPI

Laurel
John L. Rogers

40th Annual Meeting — American Camellia Society

JANUARY 17-20, 1985 MOBILE, ALABAMA

HEADQUARTERS RAMADA INN I-65

HOSTED BY THE MOBILE CAMELLIA SOCIETY

PROGRAM TO INCLUDE

Get Acquainted Party	Friday Noon Box Lunch
Tour Mobile Botanical Gardens	Tour Flowerwood Camellia Houses
Tour Bellingrath Gardens and Home	Tour Belle Fontaine Greenhouse
Seafood Jamboree	Saturday Luncheon
Saturday Night Banquet	Optional Historic Homes Tour

MOBILE CAMELLIA SOCIETY'S 44TH ANNUAL SHOW

REGISTRATION FEE — \$90.00 BEFORE DECEMBER 15, 1984; \$95.00 AFTER DECEMBER 15

OPTIONAL TOUR SATURDAY MORNING 8:30 AM-12:00 NOON — \$20.00 PER PERSON

Tour to include 3 historic homes (2 museum homes & 1 private home), private garden, city museum, transportation, and guide.

SEND REGISTRATIONS TO:

ACS MEETING: c/o MR. JOEL COLGLAZIER, 559 W. ROSSWOOD, MOBILE, ALABAMA 36606

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DEPARTURE: Day _____ Date _____

ARRIVAL TIME: Before 6:00 p.m. _____ Guaranteed** _____

** To guarantee arrival after 6:00 p.m., either a credit card number with expiration date or first nights' rate with tax are required 2 weeks in advance. Cancellation notice of 48 hours must be given for refund.

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Number of Rooms _____ **MAXIMUM PERSONS PER ROOM IS 4**

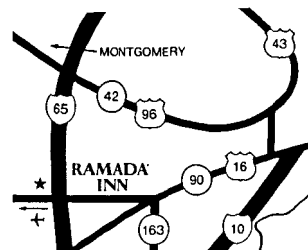
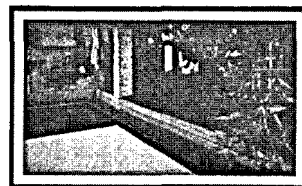
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Mobile Camellia Club to Host the 40th Meeting of the American Camellia Society

PAT RYAN

Things have changed over the years here in Mobile, as the American Camellia Society holds its 40th meeting here. This will be the fourth meeting held in Mobile, since the first one held here in 1946, the fourth month after the formation of the American Camellia Society in Macon, Georgia. The national organization came to Mobile five months after the end of World War II, January, 1946, again in January, 1953, and then in January, 1967.

As a teenager in the late 40's, I can remember the camellia exhibits held in the cafeteria of Murphy High School when the attendance would number more than ten thousand. Yes, I can remember the rows upon rows of tables with camellias lined in precise fashion for best exhibit of their form, color and beauty. In those days there was no competition, just an exhibit to encourage everyone to participate whether he was a member of the Mobile Men's Camellia Club or not. Exhibit they did, in fact, one year there were so many blooms that many very choice ones never made it to the showroom but were sent to local hospitals instead.

Yes, Mobile, like other cities, has gone through some drastic changes since those first meetings here in Mobile. All the hotels used back in those days are now gone or under restoration. The Hotel Admiral Semmes is now in the process of renovation to a luxury hotel, the Battle House is now vacant in a state of disrepair, the La Clede has been restored and is used for offices while the St. Francis, Sky View, Spanish Fort and the Winter Gardens motels no longer exist.

The meeting headquarters for the 40th meeting will be held in the Ramada Inn I-65, which now stands in the middle of what was an almost impenetrable swamp back in 1946, known as Wragg Swamp. Yes, Mobile like the early American settlers has moved west, not by choice but because that was the only way to go with the Mobile River on the east.

It was back in 1519 when Admiral

Alvarez de Piñeda, on an expedition sent out by Spain to explore the New World, first sailed into Mobile Bay and named it Espirtu de Santo. Not until 1702, when the French established a colony at 27 Mile Bluff on the Mobile River, was there a permanent settlement along the Gulf Coast. Mobile, in 1711, was moved south

of 27 Mile Bluff to the headwaters of Mobile Bay or about 35 miles north of the Gulf of Mexico. Mobile's culture was strongly influenced by its early settlers. Not only does this show in the names of its streets but also in its festivals, like Mardi Gras, and the strong influence on its colonial architecture in its homes and buildings.

Camellia plants were first reported in Mobile around 1839 when a fellow by the name of Gilbert R. Rotton, who had

continued on page 50

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1985 ICS Brighton Congress

WILLIAM D. STEWART

Planning for a pre and post tour of American camellia enthusiasts, attending the International Camellia Society's bi-annual Congress in Brighton, England has been completed. The tour group will assemble in New York on April 29, 1985 and return to the U. S. on May 23, 1985.

Upon arrival in the United Kingdom, our American group will immediately depart for Scotland and begin an in-depth tour of gardens, historical places and cultural interests. The tour will travel southerly over 10 days, arriving in Brighton for the start of the ICS Congress on May 9, 1985.

Upon conclusion of the 1985 Congress, our group will then resume our tour of Southern England and arrive in London where we will attend the Royal Horticultural Society's world-famous Chelsea Flower Show. Attendance at the Chelsea Flower Show will conclude the tour and departure to the U. S. will follow.

Come and join Bill & Dorothy Stewart as your tour leaders on this informative trip to the country where much of our heritage originated. A descriptive brochure containing all details of the tour is available for your consideration by contacting Patterson Travel Agency, 855 Howe Avenue, Sacramento, California 95825, attention Dorothy Stewart or Mollie Wagner. Patterson Travel may be reached on their toll-free telephone number: 800-782-0020.



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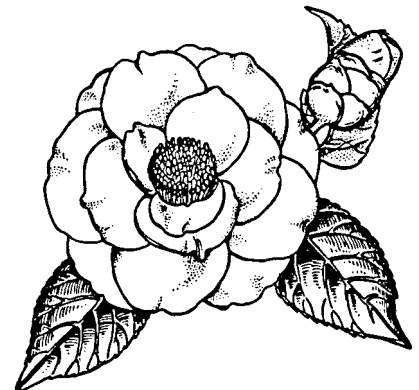
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Patterson Travel Agency invites American camellia enthusiasts to join Bill & Dorothy Stewart on an in-depth tour of Scotland & England in conjunction with the 1985 International Camellia Society Congress in Brighton, England.

For detailed information, call Dorothy Stewart or Mollie Wagner at 800-782-0020 or clip and mail the enclosed coupon:



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about 50 varieties, came into Alabama and settled in Mobile. The Langdon Nursery established north of Mobile in 1853 listed in their catalogue of 1890 some 39 varieties of camellias by name. C. V. Ravier and Sons of Mobile, whose florist business was established after the "War of Yankee Aggression," imported camellias from France for distribution and cut flower production in Mobile.

It can be seen by the above information that camellias were not strangers to many of the Mobile gardens before and after the "War of Yankee Aggression," and were common around many dwellings. Over the years as seedlings developed, many of the older varieties disappeared since they were only available by stem propagation and grafting. Many seedlings, even though the individual blooms are not spectacular, do rival azaleas when in full bloom as their mass of buds open all at once.

Apparently camellias continued to gain in popularity until 1939, when a group of businessmen formed the Mobile Men's Camellia Club to further the advancement of this plant. Their objective was to help one another through an exchange of knowledge and experience in growing camellias and to encourage others to become engaged in this fascinating hobby. The organization listed some one hundred and fifty members who paid their dues.

Camellias were used quite extensively in home landscapes in the latter half of the 19th century and first half of the 20th. The climate in Mobile was just what the camellias ordered, there seemed to be no real cold weather. The humidity was right and the high shade by the many tall trees was just what the doctor ordered when it came to being a success with camellias. Particularly, in the first half of the century here in Mobile you saw camellias become the businessman's hobby. Their ease of culture and propagation gave us menfolk a chance to show our stuff and who could beat those smiles when we brought a dish full of prize blooms to the office. I believe that this is the prime reason why here in Mobile camellias became so popular, particularly in the 1920's and 1930's.

As stated above the Mobile Camellia Club was formed in 1939 and has been in existence since. This year will mark the

44th annual camellia show or exhibit to be held in Mobile. The first exhibits were held in Murphy High School cafeteria and then in downtown Mobile at the Municipal Auditorium and now back to the western section of town in Springdale Mall.

As a teenager attending the camellia exhibits, I used to wonder at the displays, even at that time, put in by Bellingrath Gardens. I had no idea that one day I would be doing these exhibits as I have for Bellingrath Gardens for the last eighteen years, at the Mobile Camellia Show. This year will be no different, as I supervise this one.

The meeting in Mobile will kick off with a get-acquainted party at the motel on Thursday night and a show your best slides (25 maximum) later on that night. Friday will see the day open up with educational sessions and then board buses for the Mobile Botanical Gardens for a box lunch. From there, we will head for Flowerwood Nursery to tour the camellia greenhouses and to Bellingrath for a tour of the gardens and home. From Bellingrath, it is on to Belle Fontaine Nursery for a reception and then to Bayley's Ranch House for a seafood jamboree.

Saturday will be show set up and an alternate tour of historic Mobile by reservation in advance only. Luncheon at the motel and opening of camellia show in the afternoon. The meeting will close with a reception at the motel and the banquet with live entertainment.

At the Mobile Botanical Gardens you will see the nucleus of a camellia arboretum containing many of the finer camellias from the garden of Frank Haas which were moved there by the city of Mobile in the 1960's. You will also have time to wander around the rest of the grounds.

At Flowerwood you will see the collection of camellias grown by Mr. Harry Hardy Smith, who for many years had one of the feature displays in the Mobile Society's camellia show. You will also see what the modern day nursery is about as you tour the grounds.

At Bellingrath you will see the many changes wrought by hurricane Frederic, but you will see a complete garden that has rebuilt and now is growing to maturity. The Bellingrath Gardens Camellia Arboretum was literally destroyed during hurricane Frederic, but you will see many of the camellias from that arboretum in the main gardens that were salvaged for use as background material. Here you will see the largest collection of Edward Marshall Boehm's actual works on display anywhere. Your tour of the home will give you a chance to compare modern porcelain with that which is centuries old.

The day as far as camellias are concerned will wind up with a reception at the camellia houses of Bea and Neal Rogers to see some of the modern day varieties now on the market. I believe many of the camellia enthusiasts who attend the Mobile meetings come just for the next event — the feast of seafood.

We here in Mobile, even though we are not the club that we once were, still are as enthusiastic and look forward to meeting our friends from the camellia world. Perhaps at this meeting we can get our heads together to come up with the right answers to the problems faced by local clubs and by the national organization to re-instill enthusiasm in camellia culture and to increase membership to insure survival as we face the 21st century.

See you in Mobile in '85.

ACS

Election of Directors-at-Large and State Directors for the Atlantic Coast Territory

1. The Vice President for the Atlantic Coast Territory, Lewis M. Fetterman, presented the following report as Chairman of the Nominating Committee for the Atlantic Coast Territory for 1984.
 - a. Northeastern United States — Everitt Miller of Kennett Square, PA, nominated for reelection, unopposed.
 - b. D. C./MD/No. VA — Philip W. Ireland, Bethesda, MD — nomi-

- nated for reelection, unopposed.
- c. Virginia — Robert W. Matthews, Norfolk, VA — nominated for election, unopposed. (Current Director Mrs. Charles F. Urquhart, Jr. not eligible for reelection.)
 - d. North Carolina — Fred B. Mayo, Fayetteville, NC — nominated for reelection, unopposed.
 - e. South Carolina — William T. Shepherd, North Charleston, SC, nominated for election, unopposed. (Dr. Luther W. Baxter, Jr. ineligible for reelection.)
 - f. Georgia — E. Hulyn Smith is ineligible for reelection. There are two candidates — Wally Freshwater of Fort Valley, GA and Marvin Jernigan of Warner Robins, GA. (Marvin Jernigan has since withdrawn from the election. So, it is Wally Freshwater unopposed.)
 - g. Directors-at-Large — Mrs. C. C. Mason for reelection, unopposed; Mr. Carl M. Allen, Jr. for election, unopposed. (Mrs. Carl M. Allen, Jr. ineligible for reelection.)
2. The Governing Board will authenticate their election when it meets in Perry and these Officers will assume,

or reassume, their official duties for a 3-year term when the ACS meets in Mobile in January 1985.

—ACS—

'ROY STRINGFELLOW' Cover Flower

This lovely large, red, semidouble *C. reticulata* hybrid ('Crimson Robe' x 'Jean Pursel') is named for one of the finest camellia gentlemen that has ever belonged to the American Camellia Society. Roy C. Stringfellow is a President Emeritus of the Society and an active member of the Board of Trustees of the Society's Endowment Fund. He is a Life Member of the ACS and a member of the Presidents Club. All who know Roy probably will want to have one of these lovely flowers blooming in their greenhouses; or if they are fortunate enough to grow *C. reticulatas* out of doors, will want one in their garden.

The flower was originated by Frank Pursel of Oakland, California and is being propagated by Ray Gentry in Jackson, Mississippi. The plant first bloomed in 1978 as a 7-year-old seedling and was commercially introduced in 1983. The

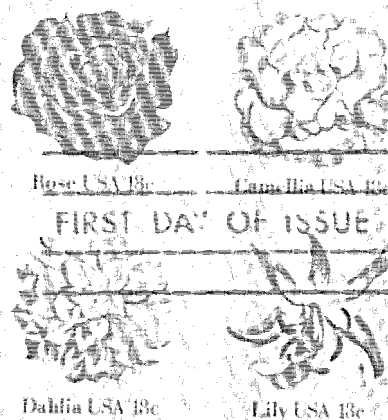
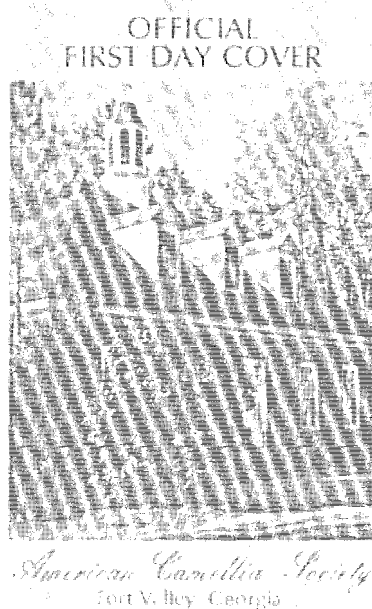
average size flower is 6½" wide and 3" deep with the plant growth being upright and average in size with dark green leaves measuring as much as 6" long and 3½" wide. It was registered with the ACS on May 1, 1981 as ACS Reg. #1748 as 'Roy Stringfellow.'

—ACS—



From
The Gang
At Masee Lane

CAMELLIA STAMP



The President
American Camellia Society
Fort Valley, Georgia 31030

A few Cancelled First Day Covers still available from ACS Headquarters. \$2.00 each (\$1.75 ea. 20 or more to same address); \$3.00 each Plate Block cancelled. Excellent gifts as they are now collectible items of interest. They are, of course, in color.

From The Desk Of The Executive Director/Editor

It is a great pleasure for me "to sit back" and let Betty Hotchkiss be the Guest Editor of this outstanding issue of *The Camellia Journal*. Some of the encouragement for a basic camellia culture booklet came from Mrs. Frank Edmondson whose ACS Committee obtains more new members for ACS at the Atlanta, Georgia Show than any others over the past many years. We have had 2,000 more copies printed than usual of this issue so that we will have them available for new or prospective members throughout the country. They will sell for only \$2.00 each. Clubs or Societies might wish to purchase some to give to local people interested in growing camellias.

The regional camellia meetings continue to be an outstanding source of camellia information and camellia good fellowship. The Gulf Coast Camellia Society always meets in Mobile, Alabama the first weekend in August and the Mid-South Camellia Society meets in Nashville, Tennessee the last weekend of August. The Atlantic Coast Camellia Society usually meets the first weekend in October in Myrtle Beach, South Carolina and the famous Camellia-Rama meets in Fresno, California the first weekend in November. You should set aside these weekends for 1985. Details and dates will be in a later issue of the *Journal*.

It was a great pleasure to hear President-Elect G. F. ("Ab") Abendroth talk at the banquet in Mobile. He stressed that the platform of his two year term, which begins in Mobile in January 1985, will be "Membership-Membership" and secondly a positive attitude about camellias. He rightfully thinks that we talk too much about pests, diseases, cold winters, droughts, etc. and that we do not emphasize all of the outstanding factors about camellias and camellia societies. Committees are now being selected so that his term will be off and running when the ACS's Fortieth Anniversary year begins at the ACS Meeting in Mobile. Make your plans to come to Mobile for a truly outstanding convention during January 17-20, 1985.

"Durned bad luck" — no new Life or Patron members to list since our August issue. Let's keep these rolling in — we want 500 such!!!

Healthy Plants

Heal thy plants — that's what it's all about. "The Culture of Pot Plants" in 1925 put it succinctly: "But diseases and insects rarely attack plants when they are growing satisfactorily. The chief thing is to keep the latter in a healthy condition by attention to their cultural requirements as regards cleanliness, food, water, temperature, and so forth. One common mistake should be avoided. A large quantity of food is as bad for a plant crippled by disease as it is for a sick human being." We hope that this "manual of basic camellia culture" will assist you in maintaining good healthy plants and enjoying good blooms and plants in your gardens.

ACS

Sustaining Members

We welcome Mr. and Mrs. Thomas G. Casey, Sr., Kingsland, Georgia not only as new members but as new Joint Sustaining Members. Let's give them a good "welcome aboard."

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Professor Tang to Speak at Perry Meeting

Professor Tang Pei-sung, the Director Emeritus of the Institute of Botany of the Academy of Sciences, Beijing, China, will speak at the Thursday Night meeting in Perry during the annual Fall Meeting.

Professor Tang is one of the most affable and pleasant persons that it has been our pleasure to meet and know. During our fall Meeting he will reach the tender young age of 81 years of ages.

His early education was an A.B. degree *magna cum laude* majoring in botany and minoring in chemistry and physics at the University of Minnesota. He had studies at Johns Hopkins University and was offered the Parker Fellowship from Harvard University in the early 1930's and attended the famous Woods Hole Conference in the summer of 1930 and 1931.

He has been at Wuhan University and was a founding member of the medical school in Kweiyang. Later he moved his laboratory to Kunming. He did effective work in the field of agriculture including work on the physiology of the silkworm. He is considered not only one of the top plant physiologists in his home country, the People's Republic of China, but is recognized throughout the world.

Despite the many accolades for his outstanding work, Professor Tang is both a humble man and a man with a good sense of humor. He most humbly closes his pamphlet with these words; "I published much, but contributed little; I labored hard, but I accomplished even less. Looking back over the years, I have left many things undone which I should have done, and I have done many things which I should have refrained from doing. Such are circumstances and reality!"

Professor Tang apologizes in that he did not bring any slides with him from China but states that he would like to give an informal talk on recent happenings in China; the title of his talk will be "A Message of Greetings From The Land of Camellias."

If you have not already registered for the convention, here is your added incentive.

The Color Dictionary of Camellias

For almost two centuries, the camellia has been an object of passionate adoration throughout much of the Western world.

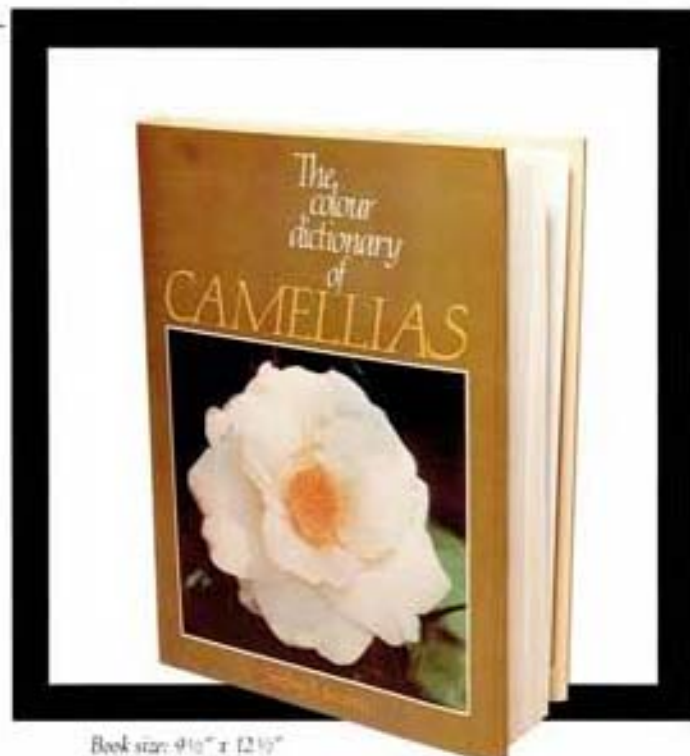
From a wealthy man's glasshouse novelty in the eighteenth century it became the companion of fashion in the nineteenth – indispensable handmaiden to a horde of swooning Disraelian beauties.

Then, the discovery that camellias grew even better out-of-doors led to a popular floral explosion; dazzling new varieties were introduced yearly, often under many different names in as many different countries.

Today, they are treasured wherever the climate is temperate, their every development watched and reported by a number of enthusiastic societies. How strange to find, then, that this is the first large-scale volume on these sumptuous flowers to be published in color and in the English language for more than 120 years! Lavishly produced, as befits the flower it celebrates, *The Color Dictionary of Camellias* is bound to become the one essential volume for every admirer, every lover, every would-be grower of these stunning cold-weather flowers.

It deals with almost 2,000 species and cultivars from many times and many places, describes over 1,000 of them in detail, and illustrates more than 500 in rich, lifelike color.

A well-researched and lively text traces the history of camellias from their original habitat in the mountains of southern China, through a chequered history in Japan's warlike middle ages. The race to import them to Europe is described, and also their subsequent spread to the antipodes and the New World.



Book size: 9 1/2" x 12 1/2"

The author's text is supported by contributions from such internationally known camellia experts as Thomas L. Savige, Patron of the International Camellia Society; Milton Brown, Executive Secretary of the American Camellia Society; Kenneth Hallstone, former Director of the International Camellia Society; and the late Professor Eben Gowrie Waterhouse, whose authority in matters of nomenclature is beyond question. The book is honoured by a preface from Julius Nuccio, the American hybridiser who has developed so many of the finest camellias of the twentieth century. Author, **Stirling Macoboy**, known worldwide for his many books on flowers.



This magnificent book of over 200 pages contains more than 500 Camellias photographed in full color.

All sections of the book are illustrated, both with a veritable treasure house of Japanese and Chinese artworks, and a dazzling collection of color photographs showing the most popular and spectacular camellia varieties – some so new they are yet to be released to the growers of the world.

Paul Jones, acknowledged as the world's finest painter of flowers, is represented by an exquisite painting of the unbelievable *Camellia chrysantha*, the golden camellia from Guangxi.

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Volume 39

Number 4

November, 1984



'HELEN SHARPE' *Japonica*

ACS Reg. No. 1961

A real Texas Star; a different pink! Very large light medium pink with white highlights; anemone center with wide skirt; 80-85 large petals and 10-12 petaloids; a long lasting bloom with substance and firm texture. A chance *C. japonica* seedling of Ferol and Sam Zerkowsky, named for a Texan whose love of camellia beauty touches all who know her. 'Helen Sharpe' blooms mid-season 5½ x 4 inches untreated; much larger gibbed. Propagated by Tammia Nursery, Slidell, Louisiana for Fall 1985.