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CAMELLIA SASANQUA • CRIMSON TIDE

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The Northern California Camellia Society, Inc. is a non-profit organization of camellia fanciers interested in the culture, propagation, and development of camellias. Meetings are held on the first Monday in each month from November to May inclusive, at 8 p.m., at the Claremont Junior High School Auditorium, Oakland. Membership is open to all those with a serious interest in the subject. Annual Dues \$5.00 except to those residing outside the counties of Alameda, Contra Costa, Marin, Solano and San Mateo, to whom Bulletin subscription available at \$3.00 per year. Membership application blanks may be obtained from David B. Grigsby, 2218 Jefferson Street, Berkeley, Calif. Address all matter regarding the Bulletin to the Editor. **Report change of address to the Secretary of your Society.**

ANNOUNCEMENT

Co-incident with this issue, the Pacific Camellia Society of Glendale, California, joins the Northern California Camellia Society as an interested party in this publication, the policy of which is being further broadened in several respects. Mr. Roy T. Thompson, who for years edited Pacific Camellia Society's **Camellia Notes**—modest in size but of the highest calibre—becomes an Associate Editor of our publication, which will hereafter be known as "THE CAMELLIA BULLETIN." This mutually-advantageous step adds to our staff a recognized authority on camellia affairs, who has a keen mind and an extra-large measure of good common sense. We are sure the BULLETIN and its readers will profit greatly by having Mr. Thompson on the staff.

May we, at the same time, express our great pleasure at having kinship with the members of the Pacific Camellia Society to the extent that we shall hereafter share the same publication. It is our sincere feeling that this new and enlarged audience will serve as an added inducement to greater effort and, within the limitations of our ability, we shall certainly do our utmost to justify this expression of confidence.

THE COVER FLOWER

The days are becoming shorter, the nights cooler and there is that unmistakable snap in the morning air that tells us Fall is with us once again. *C. saluenensis* has burst into bloom and the sasanquas are beginning to catch our eye with their colorful buds. It seems appropriate that we contribute our part in making better known a species that certainly deserves to be by having as our cover flower for this Fall issue one of the new varieties of *C. sasanqua* called "Crimson Tide."

Sasanqua **Crimson Tide** is a new introduction from the Tom Dodd Nurseries, Semmes, Alabama, which was released for the first time in 1954-55. The plant is a rapid grower, upright and compact, with dark green foliage. This variety is one of the earliest bloomers, and the glowing red, ruffled flowers are borne profusely during a long season. Flowers average 3½ inches in diameter, and have from 9 to 11 petals. In color **Crimson Tide** is slightly darker than the *sasanqua* **Hiodoshi**.

This variety was named by Tom Dodd, Jr., in honor of the football team of the University of Alabama, which is known throughout the country as the "Crimson Tide."

It is also timely, while on the subject of sasanquas, to call attention to the special number Southern California Camellia Society has devoted to this species as their July, 1955, issue (Vol. 16, No. 8) of **The Camellia Review**, which is notable for its complete coverage of the subject, excellent illustrations, authoritative articles—in short, it is a "must" for all who are interested in the sasanqua species. A limited supply is now available to the general public.

To those of you who may not be familiar with this interesting, useful and ornamental early-bloomer, perhaps a thumb-nail sketch might be in order. The *sasanqua* in the camellia family may be compared with the wild rose in the rose family. It has that same ethereal characteristic of delicacy in form and color tones and almost universal spicy fragrance, which distinguish it from the more formal and massive flowers of the japonica. Its foliage is also on the miniature order, but because of the density of growth many varieties are outstanding when used as hedges or ground covers. The *sasanqua* also seems more tolerant of sun and exposure and less particular as to soil, hence requires less care than the

average japonica. For these reasons, and the fact of its late fall flowering, when there is not too much color in the garden, one wonders why it is not used more extensively. A well-grown hedge of sasanqua is not only distinctive, it is really a beautiful sight. Though not as stiff and formal as some of the pittosporums, for example, sasanquas are more graceful and, besides, they can be pruned to the desired shape if need be.

The growth characteristics of some sasanquas are such as to make them ideal for espaliering or as wall subjects, while certain varieties will be found sufficiently pendant to cascade and they do beautifully on a steeply sloping hillside. There is, in fact, about every type of growth habit represented in this species. The color range is about the same as the japonica, although there is a tendency among sasanquas for the flower to marginate, particularly with the basically white and light pink sorts, many of which have a fascinating darker-toned edging.

Awakening interest in the potentialities of the sasanqua has stimulated the propagation of many new seedlings in the past few years and the writer anticipates that we are

about to witness a period of considerable improvement and expansion in the number of available types. There are, at present, only a few good double varieties on the market and an insufficient number of the irregular-double or peonyform types. It is felt, also, that larger-flowered types, which are becoming available, will tend to excite more widespread interest. Among the several improved varieties now being commercially propagated are two beauties from Australia which should be obtainable in due course of time—**Exquisite** and **Plantation Pink**—which originated in the garden of Prof. E. G. Waterhouse at Gordon, N. S. W.

Possibly the chief weakness of the sasanqua lies in the short life of the flower and its tendency to quickly shatter after being cut. As an offset to this, however, it is characterized by fragrance, a mass effect in bloom which few japonicas can rival and an entrancing delicacy generally. However, we should regard the sasanqua as a supplement to, not a competitor of, the japonica, for its early blooming habit widens the camellia season materially. In that respect alone it is distinctly worthwhile.

BEST INTRODUCTIONS IN TEN YEARS ENDED 1953

Notwithstanding that the results were published in the official bulletin of the South Carolina Camellia Society two years ago (September, 1953), we think many of our readers will find the outcome of a poll of 30 contributors in South Carolina as to their choice of the 10 best new introductions quite interesting, as most of these are only now generally available in this area. The results follow:

- (1) **C. M. Wilson, Joshua E. Youtz, R. L. Wheeler:** 28 votes each.
- (2) **Dr. John Bell** (Beau Harp Var.): 27 votes.
- (3) **Emmett Pfingstl, Dr. Tinsley, High Hat and Elizabeth Le Bey:** 25 votes each.
- (4) **Mathotiana Supreme:** 24 votes.

(5) **Thelma Dale:** 23 votes.

(6) **Marjorie Magnificent and Nina Avery:** 21 votes each.

Editorial comment on the results was as follows:

"We will bet that camellia **Wildwood** will not be long in taking its place with the best introductions; we can say the same for **Kerlerec** and possibly the **Duchess of Sutherland Sports. Ecclatante** is another introduction of recent years which we believe will take its place with the best of the pinks."

Our own opinion would be that these varieties, generally speaking, would rate very highly in this area also, now that we have had sufficient experience with most of them.

NEW SOUTHERN CALIFORNIA VARIETIES

Ralph Peer, Los Angeles

As if to emphasize California's importance as a producer of fine new varieties, the new introductions—camellias whose blossoms have come to maturity in 1954 and 1955 — are of outstanding quality. This is, indeed, good news for the four Societies of the Los Angeles area, which have undertaken the important role of host for the 1956 Annual Meeting of the American Camellia Society. All of this promises a banner year for Southern California in the universal race for bigger, better and more beautiful japonicas.

An entire chapter could be devoted to the productions of Mr. Harvey Short, who presides over the camellia activities of the Coolidge Rare Plant Gardens in Pasadena. **Frosty Morn**, **Pink Clouds** and **Sunset Glory** have all been introduced commercially, but their wonderful qualities are just becoming known. My own judgment of **Frosty Morn** based on personal experience, is that it is already one of the three or four best whites in existence, and I believe that its popularity will increase from year to year.

Pink Clouds is extremely large and showy; semi-double to peony in form. The cream-white petals have rose markings, shading deeper to lavender pink as the blossom ages. This variety may prove to be variable and especially adaptable for certain climatic conditions.

Sunset Glory is thought to be an **Elegans** seedling. The large, deep, coral pink anemone-form flower is exquisite. This variety received the ACS Highly Commended Certificate in 1954.

Amongst Mr. Short's newer introductions are **Fairest Day**, a large single white with many stamens, as befits a **Lotus** seedling; **Fire Falls**, a fully double crimson formal of better than medium size (a seedling of **Prof. Charles S. Sargent**) and last but certainly not least, **Guest of Honor**.

Guest of Honor is generally rated as one of the four top Southern California camellias of 1955. Another of the **Lotus** seedlings, it has extremely large semi-double to peony-form blossoms, having petals of an unusual shade of salmon pink surrounding a large mass of yellow stamens. This is really a very spectacular affair. During the last season, it won the Margarete Hertrich Award, the Frank Williams Cup and **two** ACS Highly Commended Certificates. This variety should be on your "must" list. The better than six-inch blossom, brilliant salmon pink accented by the light yellow stamens, is a startling innovation. The plant grows vigorously into a bushy form, and the flower has good lasting qualities. This is really a great camellia.

These new Harvey Short offerings have indeed increased California's prestige in the camellia world, but this year, Harvey must struggle to retain his crown. Never before have there been so many fine new introductions in one season.

Outstanding amongst the camellias already introduced commercially are **Drama Girl** and **Jack McCaskill**. The first-named originated as a seedling in the garden of E. W. (Doc) Miller at Escondido. Unfortunately, I am prejudiced because the first blossom which I saw was fully six and one-half inches in diameter, a sort of salmon-rose-pink shade and with just the right amount of stamens. It is semi-double in form and is especially attractive because of the vigorous, fast-growing dark green foliage.

Jack McCaskill is outstanding because its blossoms, described as "antique rose with amethyst venations marginated with silver," bring a new color to the camellia world. This is a sport of **Te Deum** and, unfortunately, most of us have difficulty growing this variety. It is, however, certainly worth the special effort to add this beautiful new color to your garden.

Another mutation, which promises to be very important commercially, is **Conrad Hilton**, an eggshell-white sport of **High Hat**. The "white **Daikagura**" has been a legend for many years, both in Japan and in the United States. Now we have it.

In the "very large" class, I recommend most heartily **Guilio Nuccio**. The unusual shade of coral rose, darker toward the center, is accented by the incomplete semi-double form. There are only twelve to fifteen petals, but three to five of these may be "rabbit ears."

Mr. James A. Holland, a resident of Upland, has given us a new white variety, which may well turn out to be the finest in its class. This is certainly the year for enormous blossoms. **Onetia Holland** frequently reaches seven inches in diameter. It is a deep, well-formed semi-double, in the center of which are three-inch white petaloids amongst golden stamens. In spite of the great size of this flower, the intricate development of stamens, petaloids and petals results in a finely sculptured beauty, not duplicated in any other variety. This fine new creation, because of its size, may be compared with Short's **Guest of Honor**. If you like salmon pink, you will acclaim the Harvey Short seedling, but if white contrasted with golden yellow stamens entrances you, then Mr. James A. Holland's seedling will come out on top.

Now it is my great pleasure to report a new masterpiece, notwithstanding its blossoms may best be described as "small to medium." **Billie McCaskill**, although a japonica, has all of the charm of the hybrid **Donation**. The semi-double flowers are a delicate soft pink, but with the color variable in depth. Here we have another one of the very few varieties having fimbriated edges. Again, like **Donation**, this variety is most floriferous. A single flower is beautiful, but a plant covered with blossoms is an extra-

ordinarily wonderful picture. This novelty received the ACS Highly Commended Award.

Southern California's crowning glory, however, appears to be **Reg Ragland**, a seedling originated in Sherman Oaks by Mr. William Woodroof. The very large, full, semi-double to peony-form blossoms are a brilliant red and have attracted more attention than any camellia introduced in recent years. They seem, too, to be exceptionally long-lasting. Actually, this variety variegates as soon as it is grafted, and, consequently, practically all stock now available is the variegated form. The solid red original seedling is, however, being reproduced from cuttings, and in time, this variety will be available in both the self-colored and variegated types. In 1954, it received the Margarete Hertich Award and also the ACS Highly Commended Certificate. This year, it was given the ACS Award of Merit.

If you like large-flowered camellias, the three outstanding Southern California varieties are **Guest of Honor**, **Onetia Holland** and **Reg Ragland**. If you are looking for what may well be the world's most beautiful pink camellia, place an order well in advance for **Billie McCaskill**.

For the benefit of any who may wish to acquire these new varieties, they are available in Southern California at the following nurseries:

Coolidge Rare Plant Gardens, East Pasadena — Fairest Day, Frosty Morn, Guest of Honor, Fire Falls, Pink Clouds, Reg Ragland, Sunset Glory.

McCaskill Camellia Gardens, Pasadena — Billie McCaskill, Jack McCaskill.

Nuccio Brothers, Altadena — Conrad Hilton, Drama Girl, Frosty Morn, Pink Clouds.

The excellent new white, **Onetia Holland** is not yet in propagation.

SOME COMMENTS ON PRUNING

Harold L. Paige, Lafayette

(All photos by Cedric Wright, Lafayette)

EDITOR'S NOTE: Mr. Paige is a friend and neighbor, well known for his skill in container culture, in which he is so adept that his plants usually receive top awards wherever exhibited. If there is one quality which predominates in his garden it is neatness, which is, of course, a prime consideration in the shaping of camellias. In the most complimentary sense, our subject author may best be described as a perfectionist, who leaves no stone unturned in his zeal to develop to its fullest extent the beauty of the camellia, both plant and flower. As an outstanding exponent of the container technique, Mr. Paige's considerable success in the field of bloom competition is ample evidence that high-quality flowers, as well as plants, can be grown this way.

Camellia hobbyists often grow camellias with completely different objectives. One may grow them for the sake of the flowers, without giving much thought to the plant itself. He will be happiest when he can put several hundred beautiful blooms on the table at show time. He will go to considerable trouble to protect his individual blossoms and get them to a show in good condition when stormy weather has ruined the flowers of other growers. Many a show has been saved by these lovers of camellia blooms — and they, in turn, are highly regarded by the harrassed Show Chairman who cannot sleep for wondering if there will be enough flowers to stage a show. However, it often happens that this singleness of purpose causes neglect of the plant, since it is common knowledge that very fine flowers can come from ragged and unkempt looking plants. It may also be somewhat significant that the winner of a sweepstakes award seldom takes home with him the cup for the best grown plant in the show.

Another type of grower, just as enthusiastic about beautiful blooms, enjoys the plant for its own beauty, even when not in bloom. His idea of a camellia collection is a group of well groomed plants, not so many that their care becomes an impossible task, but still enough to give variety and at least some acquaintance with the best of the new varieties as they appear. To him nothing can be lovelier than a well grown, symmetrical

plant, with its shining green leaves, just as it reaches the peak of its bloom, disbudded so that all flowers have room to open, all spent flowers removed, no fallen petals and enough protection from the blasts of winter to maintain this condition for several weeks. Unfortunately this picture of a perfect plant cannot be achieved without a deliberate program of pruning and shaping over a period of years.

The subject of pruning has been discussed before very ably. C. Norman Hastie, Jr. wrote an article entitled "Sharpen Up Those Rusty Shears" in the 1947 American Camellia Yearbook. Reading this article gave me the courage to prune heavily on various occasions when the condition of our plants seemed to demand it. The results obtained have borne out the truth of the statements made by Mr. Hastie. In his article he differentiated between "pruning" and "shearing," pruning being, he said, "for the health of the plant while shearing is for the pleasure of the owner who desires some special effect." Since he chose not to go into the subject of "shearing" at that time, it might be well to include "shearing" or shaping (which I think is a better word to describe what I have in mind) as well as pruning in this discussion.

If we are to have a perfect specimen plant we need to start early in the life of the plant. I prefer to start with a cutting or graft with a single stem. There are too many multiple-stemmed plants six feet or more in diameter taking up too much space in our lath house. If we had an acre or two of high shade under pines or oaks we would not need to be so particular. We do have ample shade in the summer (though rather dense) under walnut, pear and chestnut trees, but being deciduous these trees offer little protection to the flowers in the winter season. Having, then, to resort

to lath houses for protection, we soon found such space to be an expensive item — that is, of course, if the lath house is to be at all good looking as well as utilitarian. So in our situation the single-stem plant proves to be the most desirable shape for most varieties. After all the camellia is a tree, not a shrub.

Beginning, then, with the small plant, it is usually found to be a very erratic grower. A few varieties will grow upright and take a symmetrical shape without much assistance but they are the exception rather than the rule. Most varieties have to be staked almost from the beginning and until the plant reaches a height of six or seven feet. This applies especially to the specimen plant in a container. Fortunately, the season's growth usually hardens down to a point where the stake can be removed at show time or during the blooming season but each season's new growth will require attention if symmetry is to be maintained. As the plant reaches its desired height it is more easily controlled. Stakes are no longer necessary. If wild growth appears in any direction it can be slowed down by pinching out the growth bud if discovered soon enough or by cutting back to a latent side bud if discovered after growth has made considerable progress. Long branches that hang close to the ground should be removed. Never worry about sacrificing wood in order to shape a plant. If the plant has a good root system it will soon replace this wood with fresh and vigorous growth that needs only to be directed in the way it should go. Removal of wood already budded may seem a real loss. Actually the potentialities of the remaining buds are being increased to a point where a "Best Flower in the Show" may be the direct result. No one should object to that.

There are some problem children in the camellia world that almost defy the grower to make anything of them. Some of the most beautiful varieties

seem to have many of the qualities of a vine. This is all to the good if there is space enough or a location suitable to espalier the plant. But having used up all such space, what can be done? Again the solution is to stake and tie. After growing a good sturdy leader long enough and strong enough to become self-supporting, the plant may be permitted to assume an umbrella shape. This type of pruning will often make a very beautiful plant. I have seen crippled plants that have become too tall and leggy worked over to become very lovely specimen plants. Incidentally, it takes two or three growing seasons to achieve this result, but it is worth the effort.

Figures 1 and 2 — a "before and after" sequence—illustrate the points which have been made above with reference to the need for shaping a camellia plant. The variety, **Dr. H. G. Mealing**, is one that is inclined to be spreading in habit. At the present stage of its growth it is a healthy, culturally well-grown plant, with a form that could be described as picturesque. However, given one or two more years of unattended growth it is apt to be a mass of snarled branches much too close to the ground to be beautiful. By staking the main leader, cutting off low-growing branches and shortening some of the longer ones, we can expect — with a little additional pruning the next season or two — to have a beautiful plant which will present its blooms more nearly at eye level. This plant was pruned in mid-September, not the best time for heavy pruning but certainly it is much better to do it now than wait until another season has passed.

We who live in California are quite apt to have a considerable proportion of our plants in containers. They fit into our way of living. They can be moved in their blooming season to patios or porches to be replaced by later varieties as they in turn come into bloom. They provide a continuous parade of color from October until May. However, plants in contain-

ers are quite vulnerable to neglect and because of their tough, leathery leaves this season's neglect may not be apparent until next season arrives. Insects are not much of a problem and neither are diseases. The chief difficulty is lack of water during extremely hot, dry weather. One failure to water during intense dry heat may cause the root ball to shrink away very slightly from the side of the container. Subsequent waterings may then escape around the root ball instead of through it and soon serious trouble ensues, with loss of the fine feeder-root system. The following season finds us wondering what is wrong with the plant when its leaves begin to fall. Pruning now becomes a very real necessity. To be sure, the plant could be left to struggle along by itself with a fifty-fifty chance of survival, meanwhile standing as a silent rebuke to our unrealized carelessness. Rather than this, take a look at the root system. If the plant is badly rootbound (and these are the ones most likely to suffer damage) repotting is called for. A new supply of humus is the breath of life to a container-grown camellia. Washing away the soil mixture from the outside inch of the root ball will reveal the extent of damage and indicate the amount of pruning necessary.

Usually severe pruning is called for. Probably from one-third to one-half of the top should come off. This may seem drastic but remember that an overgrown top with a weak root system is a constant liability. Cut back the long, thin branches first. If the wood is old with no latent buds showing and of small diameter, cut back to the main trunk. Heavier branches should be cut back to a strong lateral, keeping in mind that a future tree is now being shaped. If all but the last season's leaves have been lost, it may be necessary to keep some of the better branches, to be cut back later. Camellias are good stump sprouters as we all well know from our grafting failures. But leaves

are necessary if a new root system is to grow quickly. Some adventitious buds will appear on the trunk and larger branches. Select the desirable ones and rub off the rest, keeping in mind again the future shape of the tree. In two growing seasons the plant should begin to look normal again.

Pressures connected with building a new home and moving a camellia collection into a new climate provided the unhappy experience from which two basic lessons (illustrated in Figures 3, 4 and 5) were learned: (1) drastic surgical pruning may be needed to save the life of a damaged plant; (2) more than one season is needed to reshape the pruned invalid so that it becomes again a beautiful plant. These pictures show the progress being made by three plants — 6 weeks, 1 year and 2 years, respectively, after drastic pruning.

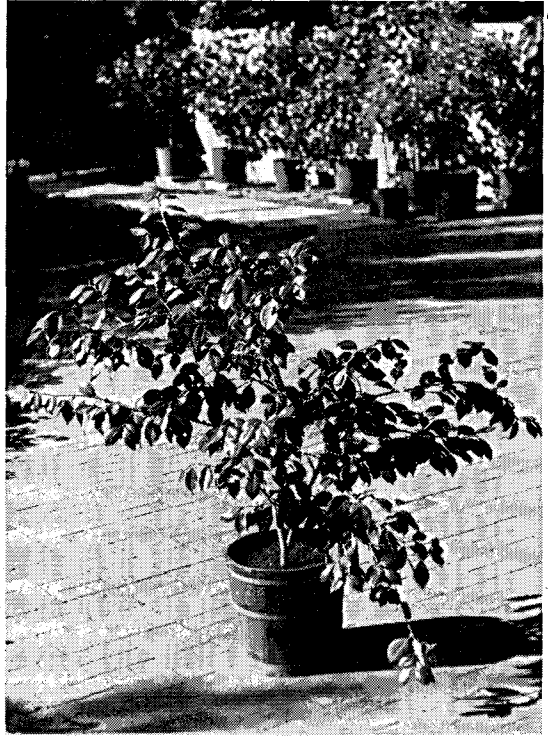
A number of large plants in containers were badly damaged by 100-degree weather shortly after they were moved to their present location in Lafayette. Coming from the mild coastal climate of Oakland we were quite unprepared for the suddenness with which high heat and drying winds could wreck a container-grown camellia. Even after the lath house was built, damage continued until the lath spacing was narrowed and plants were more meticulously watered. The three plants shown in Figures 3, 4 and 5 were all so badly damaged it was hard to decide whether an effort should be made to save them or they should be thrown out and burned.

No. 3 (**Shira Tama**) lost all but this season's leaves. It was badly rootbound, not having been repotted for five years. Pruned about 25% in August, 1955, now just six weeks later it has over 120 latent and adventitious buds developing. These will be watched and selected for vigor and for position of future branches. The remaining buds will be rubbed off. The plant will be repotted in October when the weather cools off. More

pruning and shaping will be done at that time.

No. 4 (**H. A. Downing**) in 1954 had lost nearly all except the current season's leaves. Five years had elapsed before repotting in August, 1954, when it was pruned over 50%. Five or more large branches were completely removed, one being almost equal in size to the main stem. Since this plant has always had a tendency to be spreading in habit of growth, it has been pruned high and permitted to droop. It will take at least one more season of shaping to make it really presentable again.

No. 5 (**Duncan Bell**) was cut back well over 50% in August, 1953. It was repotted at that time. Now, two years later, it is nearly, though still not quite, back to normal. It is well bud-





LEFT — Fig. 1

RIGHT — Fig. 2

Below

LEFT — Fig. 3

CENTER — Fig. 4

RIGHT — Fig. 5



ded and we look forward to good flowers this season.

These are, we hope, the last of our damaged plants. At least a careful effort will be made to prevent future damage through drying out.

Large, older plants in the ground are almost always in need of pruning. Many small branches in the interior become shaded out each year. The whole center of the plant should be kept clear so that spray materials can reach every stem and twig. Most varieties grow so many laterals that the outside of the tree is just a mass of leaves and buds. If quality of bloom is desired it will pay to thin out branches each season. Any well kept orchard is a visual reminder that even mature trees growing in the ground need continued pruning if they are to avoid that rough, ungroomed look and continue in full production.

A recent article in the American Camellia Society Quarterly written by Roy T. Thompson of Glendale, Calif., laid considerable stress on maintaining "plant momentum." The point was made that a plant should never be permitted to stand still. The rose grower looks for and expects several new canes to come up each year from the base of each rose bush. When the plant fails to renew itself he wonders if it is not time to pull it out and replace it with a new one. This process of plant renewal is easily seen in a plant that sends out shoots as long in one week as a camellia sends out in a whole season. It is not so easy to know when a camellia is standing still — when it has lost its "momentum." Its growth cycles are so slow that it is hard to see the whole picture. Any plant, however, that fails to put out vigorous growth each year should be looked upon with suspicion as being a candidate for re-potting or pruning, or both.

This matter of plant renewal is an important factor to consider in growing camellias. We know the leaves remain on the plant for about three seasons. After that they have lost their

usefulness and nature sees to it that they drop off. Likewise many laterals have become so atrophied and hardened that they could not possibly produce a good flower at their tips. The sap has too far to go through a weakened cambium layer. Such poor wood is only a liability to the plant. Whether we prune to shape the plant or for the sake of the health of the plant, we should take satisfaction in knowing that the plant is being doubly benefited; first, in the removal of useless wood and second, in the increased flow of sap to the vigorous wood. Furthermore, the relationship of root system to the top growth is improved, especially if for any reason the root system has not grown in proportion to the top.

For pruning equipment two sizes of snap-cut shears should be used. When laterals are cut off at a main stem, stubs will be left which should be removed with a sharp knife. All cuts of $\frac{1}{4}$ " or more should be covered with a sealing compound. It is a good idea to have an assortment of stakes and a roll of tie wire on hand to correct wayward stems or branches.

The ideal time to prune or shape is at the close of the blooming period. Few of us, however, can spare the time to do a big pruning job then. I have found it necessary to extend my own pruning and shaping throughout the summer and fall months. Thinning out excess material can perhaps be done better at this later time. Some varieties such as the **Finlandia** group, **Mrs. Tingley** and many others send out too many closely-spaced laterals which are usually about the same length, crowding each other to a point that leaves little room for a perfect bloom to develop. Old, stringy wood that has outlived its usefulness and crossing branches that have been shaded out in the center of the plant should be removed whenever found, regardless of the time of year.

Yes, "Sharpen up those Rusty Shears" and carry them in your hip pocket the year round.

VIRUS-INDUCED VARIEGATION IN CAMELLIAS

(In our last issue, July, 1955, Vol. 8, No. 4, we presented a review of an excellent talk given on this subject by Dr. P. D. Caldis, concluding with some editorial observations. In due course of time, President Calder W. Seibels of the American Camellia Society, who is also one of our good members, sent us a copy of a letter written to him under date of March 3, 1955, by Dr. A. G. Plakidas, Professor of Botany and Plant Pathologist at Louisiana State University, which is so interesting and pertinent to this subject that we secured permission to reproduce the essence of it here, which follows.—The Editor.)

Plant viruses (several hundred of them are recognized) fall conveniently into 3 distinct classes as follows:

I. **The Mosaics.** This class contains a very large number of viruses which cause very serious diseases in most cultivated crops, such as tobacco, potato, tomato, pepper, cabbage, cucumber, etc. The viruses of this class are very easily transmitted. They can be transmitted by contact. You can rub a leaf of a healthy plant and you transmit the virus. They can be easily transmitted by sap. You can squeeze the sap from any part of a diseased plant and either inject it in, or rub it on, a healthy plant and the plant will become infected. They can also be transmitted by many species of insects (mostly by sucking insects such as plant lice and leaf hoppers, but also by many chewing bugs). Several of these viruses have been obtained in pure form.

II. **The Yellows Group.** The viruses of this class, which infect for the most part trees and shrubs (peach yellows is a typical example) but also some herbaceous plants, are characterized by the fact that they are difficult to transmit. They cannot be transmitted by contact or by sap inoculation. They are transmitted by insects, but

even in this respect they are peculiar in that, in general, each virus is transmitted by one kind of insect and by one kind only. They can also be transmitted by grafting and budding. None of the viruses of this class has been obtained in pure form.

III. **Infectious Chlorosis (Infectious Variegation) Group.** This group contains relatively few known viruses, mostly occurring on ornamental shrubs and trees. The only known method of transmission in this class is by grafting. They cannot be transmitted by sap inoculation, and no insect vectors are known. It is assumed that, in nature, these are transmitted by insects, but these have not been found. The camellia virus apparently belongs to this class. I have tried repeatedly to transmit it by sap inoculations but have failed. There must be a union between the stock and scion to effect transmission. It is not necessary for the variegated scion to grow; if it forms even a temporary callus and then fails to grow it still transmits the virus. I have checked this point repeatedly.

It is logical to assume that the virus was transmitted to camellias sometime in the past, probably from some other kind of plant, by means of some insect, somewhere in the Orient. I feel pretty certain, however, that this insect does not occur in this country because there is no indication whatever of spread of the camellia virus here by any other means except grafting.

The camellia virus has not been isolated, but even if it had, it could not be reintroduced into camellias already infected. We cannot introduce it even into healthy plants in any other way except by grafting.

It is stated that several highly variegated varieties appear to be **reverting to almost solids. I beg to doubt this assertion.** I have heard claims of this sort before which were not substantiated. For example, one of my colleagues here told me that last year his variegated Audusson was nearly solid, however, this year, it produced highly variegated flowers. I believe that differences of this sort are seasonal. We call the flower variegation "color breaking," but this is not probably strictly true. I believe (and I have some evidence to support this belief but I won't go into that now) that the virus does **not break** the color, but simply prevents the development of color in certain groups of cells. Furthermore, this inhibitive action in all probability takes place while the flower buds are in the embryonic stage. Now, if this assumption is correct, it is also reasonable to assume that the weather conditions prevailing during the period the flower buds are forming may have an influence. It is a well known fact, for example, that in the case of most viruses, multiplication of the virus within the plant is inhibited to a considerable extent by high temperatures. I really believe that if one would take the trouble to measure the degree of variegation in a particular plant over a period of several years, one would find seasonal differences but the overall picture will not change.

Another point deserves mention. In class I (mosaics) the viruses are uniformly distributed throughout every part of the plant. In the other two classes, and especially in the case of woody plants, the virus is not so uniformly distributed, and, also travels rather slowly through the plant. It is therefore possible for a part of the plant, a branch or twig, let us say, to be free of virus while the rest of the plant is infected. This accounts for the fact that variegated varieties of camellias often produce some solid-colored flowers.

CALDER W. SEIBELS RETIRES

After having served the American Camellia Society capably and well as President since 1952, Calder W. Seibels of Columbia, South Carolina, on September 1, 1955, asked to be relieved of his duties due to a critical illness which necessitates complete rest. It is with the sincerest regret that we report this unhappy development.

One of the more pleasurable aspects of the writer's connection with the American Camellia Society on the Pacific Coast the past two years has been the interesting and extensive correspondence with Mr. Seibels who, incidentally, is also a valued member of our local Society.

All will join in extending to Mr. Seibels very best wishes for a speedy and complete recovery, conscious of his considerable accomplishments in the world of camellia affairs and hopeful that he may continue to enjoy what is his (and our) favorite hobby for many years to come.

CORRECTION

Our apologies for two errors of identification in the last issue: originator of the hybrid **Donation** was the late Col. R. Stephenson Clarke, of Borde Hill, near London, not J. C. Williams; the hybrid **Margaret Waterhouse** was named for the daughter-in-law, not daughter, of Prof. Waterhouse.

The above discussion refers to virus-induced variegation. The variegation due to genetic constitution of the plant (exemplified by Herme, Tricolor, Sarasa, T.K. Variegated, etc.) is an entirely different matter. Here, the plant is composed of a mixture of groups of cells, some possessing the property of developing color and some not. In this case, then, it is possible for the color-containing cells to multiply faster than the colorless ones, and the plant will then be producing more solid-colored flowers.

A. G. PLAKIDAS,
Professor of Botany and
Plant Pathology.

ORIENTATION AND ACCLIMATIZATION

David L. Feathers, Lafayette

While man, with all his energy and ingenuity, continually contrives new methods and devices, in the process he often loses sight of a very important matter — the tendency, in so doing, to get farther and farther away from the fundamentals and Nature. One of the most outstanding examples of this is our great cities, where so many people live under such conditions of artificiality as actually removes them from all personal contact with the soil. That we human beings were never designed for such environment goes without saying; nevertheless, as the anthropologist will attest, we are an adaptable animal and evolution works wonders. However, the question with which we are here concerned is the adaptability of plants, not animals, to environmental changes and the attempt to define to what extent this is important in the life of the camellia, specifically.

To begin with, the evolutionary concept must be discarded entirely, for no camellia has been prepared by heredity for the substitution of a state of mobility for one of immobility—for conditions under which the term "rooted," denoting a fixed situation, ceases to have any application. My reference is, of course, to the substitution of container culture for ground culture. This article will, therefore, deal largely with the environmental problems attendant to the former technique, for, insofar as ground culture is concerned, the question is rather academic as the natural obstacles to transplanting are such that a camellia is seldom moved unnecessarily.

Perhaps the writer should first clarify his own position in regard to container culture, as this method has, at times, been to a certain extent controversial. Notwithstanding that, as an exponent of what might be called the "plain-dirt-gardener" technique, he may have on an occasion or two sounded a note of caution about this

and any other practice that departs from the natural, the fact remains that we ourselves grow about as many camellias in containers as in the ground. Consequently, it is recognized that culture has certain undeniable advantages — as well as some disadvantages. Among the former are the mobility so characteristic of that type of culture, which point was both fittingly emphasized and colorfully described in the words "growing camellias on wheels," used with reference to container culture a few years ago. Certainly this is one of the great advantages of that type of culture. That it is also one of its greatest disadvantages, insofar as the camellia itself is concerned, is something we shall attempt to bring out in this article, for even the slightest movement of a plant can cause a disturbance of the environmental status quo sufficient to require the camellia to immediately attempt to adjust itself accordingly. How serious this disturbance would be naturally will depend largely upon the circumstances, as there are many different degrees of orientation and acclimatization to which a plant will be subjected. It is safe to say that the time required for a camellia's complete adjustment to new environmental conditions would be commensurate with the extent of the change. In other words, the time element involved would constitute a measurement of the amount of shock the plant has undergone. To one who has been through the experience of moving a large collection from one climatic environment to another and has purchased "canned" plants from nurseries ranging all the way from close by to 400 miles away, as well as having brought in bare-root plants from such distant places as our Southern States and Australia, and who, through both necessity and choice, is almost constantly moving some of them about one way or another, this problem of

orientation and acclimatization is as real as modern means of transporting camellias is rapid.

Environmental changes range all the way from the half-turn the meticulous grower gives his tubs periodically, to develop uniformity of plant shape and florescence, to the transporting of camellias from one country to another where the seasons are almost diametrically opposite. There is the transplanting from container to the ground; the removal of them from greenhouse to lath-house, from lath-house to porch, patio or the open. There may even be significant alteration of the immediate environmental conditions simply by moving the plant only a few feet, such as around the corner of the house or out of the shade into greater sunlight, especially if this involves changing the exposure radically, such as from east to north. Of course, if you move a collection or plant from one type of climate to another that is hotter or colder, dryer or wetter, or where the position is shadier or sunnier, substantial change is involved and the camellia will require time in which to make the requisite physical adjustment. A little patience then becomes very necessary. Some of the worst instances of sunburn I have ever seen were on container-grown plants that had been moved just enough so that the foliage on the shaded side had become newly exposed to an hour or two of the hottest sun. Most varieties will adjust themselves to such a change within a year or so; meanwhile the plant is likely to suffer in both appearance and welfare.

Because we have rather a wide variety of exposures and facilities at our place, there is almost unlimited opportunity to abuse the privilege of moving container-grown plants about. In fact, it is a part of our standard routine to rotate plants from lath-house and greenhouse to patio, to have utmost benefit of them through a continuous display of bloom throughout the season, which means

they are changed from one situation to another quite different, then back again. I do not believe there is any doubt whatsoever that the camellias resent this migratory process. While an actual case-history has not been kept, nevertheless several instances are recalled, particularly where the plant was transferred abruptly from a warmer to a cooler environment, in which the blooms showed definite reluctance to open. On rare occasions, even some bud drop may result. Notwithstanding that the orientation, or direction in which the plant faces, may have been kept about the same, it is difficult for us to realize how many minor temperature and exposure factors may be involved in moving a plant but a few feet. In our case, a plant might be taken from the lath-house, where it enjoyed only lateral direct sunlight (early and late) with 50% overhead shading and perhaps reflected back-lighting, to a covered patio position where it would receive only the early morning sun, because of a wall on the westerly side. A close study of the resulting effect would reveal that the light and warmth factors have been reduced; the air currents would be different, there would be loss of the invigorating effects and humidity from nightly dews, etc. The cool-air drafts to which a camellia may have become accustomed might be replaced by warm-air drafts at a particular time of day — and so on. There is no way I know of accurately measuring the effect functionally on a camellia of such relatively minor changes in its immediate environment. I have no doubt, however, that it does constitute a disturbance of the daily routine which certainly will be reflected to some extent in the plant's behavior.

Consider now a more drastic environmental change: the transplanting into the ground of a camellia which has become too large for its container. Let us assume that it has been growing under the shelter of a covered patio having an easterly exposure,

shut off completely from sun and light overhead and to the west. We decide to move it into a vacant spot in our hillside camellia planting which slopes to the east, where there are tall live-oaks overhead casting light shade in the morning but with lateral afternoon sunlight beginning at about 3 p.m. The mid-day sun and light factors will not be too much different, but our camellia is now going to get its warmth at the end instead of the beginning of the day, from sun that is more intense and that hits it all at once. The root environment is also going to be changed, as will be the amount and frequency of the watering and it will receive different fertilization. There is further question whether, in transplanting, the plant was faced exactly the same as before. What do all these changes add up to? Judging from our experience here, the effect is something on the order of a mild condition of shock, from which the camellia will require at least one and perhaps two or more years to completely recover.

Now let us attempt to spell out what the effects are on a plant that is transported a considerable distance from its place of origin to its eventual destination, such as would constitute a definite change of climate. I have found that it is best to restrict such importations to the smaller plants, if possible, as they seem to suffer less from the disturbance. It normally takes about two years (the second season) for a blooming-size plant from Southern California to become acclimated here (400 miles north) and from one to two years for a bare-root, two-year-old cutting-grown camellia to adapt itself to our cooler, wetter climate from the Southern States. In fact, it is not at all unusual for a 3-to-4-foot camellia from these warmer climates to bloom very sparsely or not at all after its first full year under our conditions, due, no doubt, to the effect upon bud development of a considerable reduction in average maximum temperatures. Aside from this major

change, we should also recognize that the plant's immediate environment and exposure are almost certain to differ to a considerable extent from that to which it had been accustomed. Ample time must be allowed for "imported" camellias to adjust themselves — to become acclimated. The corollary of this would seem to be that plants bought locally might be expected to give satisfactory results somewhat sooner. In general this should be true, although it would depend to some extent upon the variety, as some would perform better in our climate as well as the opposite.

Now we come to the extreme case — the importation of camellias from a foreign clime where the seasons differ radically from ours. The writer's experience in this respect has been limited to camellias from Australia, but this is about the greatest possible variation because their summer is roughly equivalent to our winter. Out of the 40-odd varieties secured from this source, 29 were bare-root plants brought over in 1948 and 1949, being small one-year rooted cuttings which had been subjected to fumigation. This, of course, would introduce another shock factor, the importance of which cannot accurately be measured. Actually, it was even difficult to bring these plants through alive and I am absolutely certain this quasi-poisoning process added considerably to the time element required because rehabilitation as well as acclimatization became necessary. The first shipment of 14 plants was received April 2, 1948, from which the first blooms were obtained in the spring of 1950. By March 22, 1953, all 13 surviving camellias had flowered. The second shipment of 16 plants came into this country a year later but they were not brought here until November 18, 1949. The last of these bloomed in March, 1954. It will thus be seen that as much as five years may be required in extreme cases for acclimatization (and rehabilitation). One can only guess at what effect the chang-

ing about of the seasons (because of being transported to the other side of the equator) has upon a camellia. I suppose that, to some extent, it would depend upon the time of year in which the transfer took place. A shipment made from Australia in March would mean that the camellia had left the dormancy of early fall and entered our spring growth period just a few days later. Theoretically, this would advance its blooming period a half-year, but it does not necessarily work out that way. At any rate, this experience proves that complete acclimatization still would require from three to about five years for normal bloom, although the factor of rehabilitation might be responsible for a loss of perhaps one year thereof.

The conclusions to be drawn from the foregoing are rather obvious: do not move camellias that are doing well unnecessarily. If you must move them, try to face the plant in the same general direction as before, and in other ways try to arrange matters so that the new environment will be similar to the old in all respects possible. Moving plants abruptly from a cool to a warm situation or from maximum light and sun to a shady spot should be avoided, as any climatic

change should preferably be gradual. Camellias can be killed or irreparably damaged by too drastic a change either way, becoming badly burned on the one hand or forced into defoliation and lack of floescence through heavy shading after having been accustomed to good light and warmth. This latter point brings vividly to mind the complaint of an elderly lady visiting our Show a few years ago which was to the effect that her established camellias had suddenly failed completely to bloom. Upon inquiry, it developed that she had shortly before engaged a new gardener, who promptly transplanted all her camellias to a new situation between a row of tall trees and the house, explaining that camellias were shade plants. (This is, of course, true only in a qualified sense.) Our recommendation was that she have them moved back again immediately. Established camellias remind one of mature persons—they usually do not transplant too well. Leave that to the youngsters, who are less set in their ways! While the camellia is remarkably adaptable in time, once it is naturalized you move it at some risk. One thing is sure, a camellia is definitely not of the gad-about type!

CAMELLIA CULTIVATION IN COASTAL TEXAS

E. C. McRee, M.D., Port Arthur, Texas

All of Texas is not mesquite, cactus, and dry prairies, as some would believe. We who live in the area of Port Arthur might consider the marsh cane, the salt cedar, and cultivated rice as our common plants. Part of Port Arthur is below sea level in its elevation and necessitates the removal of its rainfall by pumps. The normal precipitation for one year is approximately five feet, and the disconcerting feature is that on occasion, we receive approximately one-fifth of that amount in a 24-hour period.

The desire to raise and possess camellias has caused men in different localities to surmount many difficulties. We read of the constant battle

against cold in certain fringe areas, and the constant battle against low humidity and so forth in other areas. I have sat in the company of men who had knowledge of camellias, and heard them discuss the problem of the depth in planting camellias. The eventual criteria evolved into the relation of the normal water table of the area under consideration. I will always remember the amusing remark of the local man who said the winter water table in his yard was one inch above the surface. He stated that there was hardly any time during the winter that the St. Augustine grass was not merely a camouflage for the water that invariably sloshed underneath

his shoes when he walked. Walking stones are not necessarily placed in our yards for beauty alone. One can readily see that if conditions such as this confront the camellia raiser, he must certainly rise to the occasion.

We know the scientific and practical fact that the camellia does not like wet feet. The successful camellia raiser in this area might be likened to that certain branch of Indians known as the mound builders. We in Port Arthur have found that as we purchase a new plant, instead of digging a hole, we place the balled and burlapped plant upon the surface of the soil and proceed to build a miniature pyramid around the ball. On a three to four-foot plant, it necessitates the use of three or sometimes four wheelbarrows of soil; and this soil is usually imported because our normal soil is what we speak of as "gumbo." At the apex of the pyramid, there is a depression left for watering purposes and the slope of the side is always gentle and never steep, falling flush with the grass. We attempt to remove the grass as it grows not by the use of trenching, but rather by hand pulling, as the tendrils of the St. Augustine climb up the mound. We have found that the rain runs off and is dissipated, if not trapped in a trench around the mound. We understand it will be necessary to water our plants extensively in our dry season of the year, but we know that we are obtaining the lesser of the two evils. One can always water, but there is nothing one can do after a flooding downpour that has soaked the ground and allows no drainage. We quite often in the spring have crawfish mounds appear in our yards, showing the ever-present water which is necessary for the crawfish to live. The mound in the dry season is definitely prone to dry and is in need of a heavy mulch. We employ pine straw, bagasse (which is the pulp of sugar cane), oak leaves, sawdust, etc.

We also find that there is a continuous drop of the mound from year to

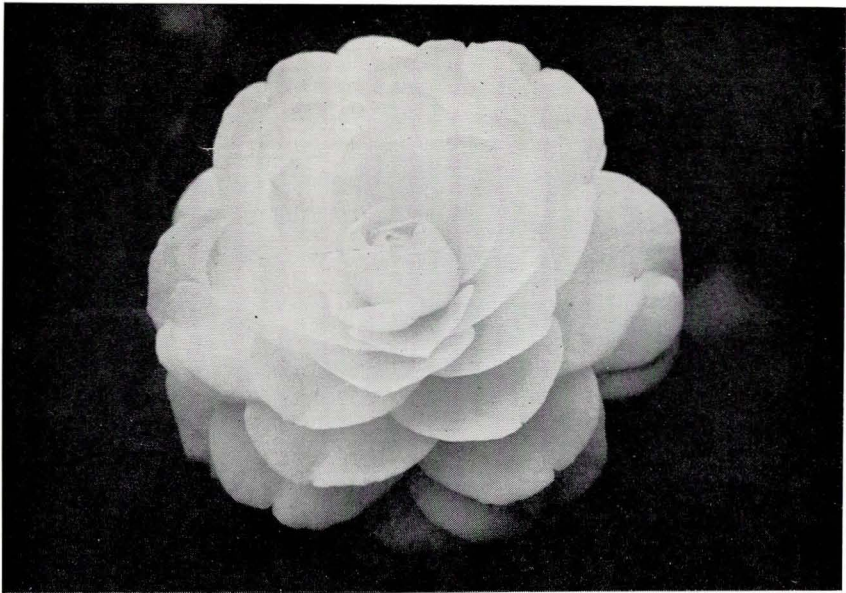
year, which requires yearly replacement of its bulk. My personal replacement is done by the use of well-rotted cow manure placed as a top dressing by removing the mulch, placing the cow manure and then replacing the mulch. I quite often use as much as a two or three-inch layer of cow manure, and at the same time, acidify with ferrous sulfate and/or sulfur. This is usually done in February or March, as the time permits. The only other fertilization that is done is usually an application of an acid camellia-azalea fertilizer, such as Reliance. This is also employed as a top dressing. It would certainly be in order to wet down these last two dry items after application; but we usually do not find it necessary, as our normal rainfall at that time of the year usually takes care of it. It might be of interest to know that a saturated solution of ferrous sulfate has a pH of 3.2, and let the user govern himself accordingly.

One can see from the above information that we are fundamentally container growers. The reason I say we are container growers is because we have set about to remove our plants from and above the normal water conditions found in this neighborhood. The only difference in our containers is that they are constructed of imported soil covered with mulch and are immovable. We are able to control our fertilization and water content with soil. We have perfect drainage, and I might incidentally say, not in a bragging way, that I think we grow as pretty blossoms as are grown anywhere outdoors.

A local commercial camellia handler states that 90 per cent of all camellias that are lost in this area die due to faulty planting, which is in effect, burying the poor things.

In conclusion, one might say if you have hopes of raising camellias on the shores of Lake Sabine, you must rise to the occasion and not bury those hopes.

(Reprinted from *The Camellian*)



JULIA STAFFORD (above) — A new formal white seedling, resulting from a cross by D. L. Feathers of the varieties **Debutante** x **Waterloo**, having 86 petals. In cool weather and early season flower holds bud center, opening into a high-centered, larger flower of unique form and great beauty in warm weather. Compact, sturdy growth, ability to take sun well and long blooming season characterize this variety.

ROSARY (below) — (Finlandia F.N., Pink Glory). This variety, which originated in the South, is an extremely interesting loose, semi-double pink having very long, narrow petals, which give the flower much grace. It blooms about midseason. Growth habit is average but strong and it seems to do best in a warm situation. There is a variegated form that is also very handsome.