

THE

Camellia Review



C. sasanqua 'Charmer'
Courtesy McCaskill Gardens

A Publication of the Southern California Camellia Society

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Southern California Camellia Society Inc.

An organization devoted to the advancement of the Camellia for the benefit of mankind—physically, mentally, and inspirationally.

The Society holds open meetings on the Second Tuesday of every month, November to April, inclusive at the San Marino Women's Club House, 1800 Huntington Drive, San Marino. A cut-camellia blossom exhibit at 7:30 o'clock regularly precedes the program which starts at 8:00.

Application for membership may be made by letter. Annual dues: \$5.00.

OFFICERS

CARYLL W. PITKIN, Pres.
2465 Sherwood Rd., San Marino 9
ATlantic 7-5826

RALPH S. PEER, 2nd V. Pres.
8159 Hollywood Blvd., Los Angeles 46
OLdfield 6-3291

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25 S. Michillinda, Pasadena
SYcamore 3-4677

COL. C. M. GALE, Sec'y.-Treas.
40 N. San Rafael Ave., Pasadena 2
SYcamore 6-3740

DIRECTORS

PAUL DENNISON
1539 Maple St., Pasadena 4
SYcamore 3-1009

WILBUR W. FOSS
1985 Sycamore Dr., San Marino 9
ATlantic 6-2072

MERLE S. GISH
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THE CAMELLIA REVIEW

DR. JOHN H. CLAIRMONT
Chairman, Camellia Review Committee
1818 Oak Knoll Rd., Glendale 8, Citrus 3-4611

ELIZABETH BEEBE, Editor
706 S. Fair Oaks, Pasadena 2, Calif.
SYcamore 6-4160

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Camellia Reviewer

ELIZABETH BEEBE

Homage to Camellias Covers the Years

"The Camellia is justly esteemed one of the finest, if not actually the finest of our exotics, and indeed, there are few of the beauteous denizens of the greenhouse and conservatory that can lay equal claim to our attention. Unlike most of its compeers, this lovely genus at all seasons whether it be in blossom or not excites our admiration. During the summer and early winter months, we are pleased with its bold and elegant form, and with the deep glossy hue of its beautiful foliage; whilst from Christmas to May the various varieties delight and charm by their fine and showy flowers of white, buff, striped and red, of every shade from the deep crimson to the soft tint of the maiden's blush."

The above statement extolling our favorite flower is as true today as when it was written and that was away back in December 1837 when it appeared in the Floricultural Cabinet, an English periodical "conducted by Mr. Joseph Harrison." The article on The Camellia of which we have quoted only a part of the first paragraph was signed "Clericus," and whether that was the signature of Mr. Harrison or of some other camellia devotee we pay tribute to the author as just one of a mighty army of followers of the Camellia. It would please us greatly to imagine that one hundred twenty years from now some other camellia lover would pick up some small tribute we ourselves have written — for we are sure that the Camellia will even then be still flourishing. Perhaps yellow camellias will grow in every yard — who can tell?

As Sure as D & T

One of the annual events that marks the fall season without fail and makes

the Camellia Review as regular October news is the crop of camellia seeds produced by those fortunate camellias of the S C C S Garden which is part of the Huntington Botanical Gardens in San Marino, California.

As if they knew that the S C C S was an active co-sponsor with the Huntington Estate, and as if they felt that they must come up to scratch under the aegis of their Keeper, William Wylam, these camellias produce seeds in such quantity that the Garden Committee is able to defray some of the expense of its projects by their sale. Each year these seeds rush like the wind to far places — across mountains and seas spreading loveliness. This year for the first time, the seeds have been segregated in harvesting so that seeds which are known to have a parent from varieties which in the past have proved most satisfactory in the production of successful new varieties, are offered apart and at a somewhat higher price. However, all the seeds have of course been harvested and handled carefully and who knows what outstanding seedlings are imprisoned — waiting to be liberated by eager camelliaphiles?

Turn to page 25 for seed sale details.

New Zealand Comes Closer

We applaud the surge of camellia enthusiasm in New Zealand where the membership of their newly formed camellia society increased to nearly double this year. In their 1956 Annual it was interesting to read about many camellia varieties foreign to American propagation. O yes, anyone desiring to become a member of their Society and so receive their Annuals may contact the S C C S Secretary for information.

Festival Themes

Who ever heard of a Festival without a theme? No one — that's the answer and so we hasten to report the

(Continued on Page 35)

CARYLL PITKIN, S C C S PRESIDENT, HERALDS THE 1957-58 CAMELLIA SEASON

To all Camellia growers there is something exciting about the beautiful fall days which herald the approach of another blooming season. We know that the many hours of care and attention we have given our plants will soon be rewarded by wonderful flowers.

To those of us who are able to attend the meetings of our society there is excitement and pleasure in looking forward to greeting old friends and meeting new ones, in enjoying fine programs and in admiring the flowers brought by other members.

The officers and directors of the Southern California Camellia Society intend to follow the successful pattern of monthly meetings laid down in previous years. Continued emphasis on display of blooms (a schedule for competition will be found elsewhere in this issue), more time for visiting with friends and always interesting programs will be our goals.

We urge all who can do so to attend the meetings which, as in the past, will be held the second Tuesday of each month, starting November 12 and continuing through April at the San Marino Woman's Club House on Huntington Drive in San Marino.

We want to wish each of you a very successful season and may all your blooms be of "blue ribbon" quality.

THE LOS ANGELES CAMELLIA COUNCIL AND ITS PROJECTS

by DR. CECIL B. ESHELMAN

The Los Angeles Camellia Council was organized primarily to bring together the Camellia Societies in Los Angeles County and to provide an entity which could issue an official invitation to A C S to hold its Annual Meeting for 1956 in Los Angeles County. During the organization of the Council, it was suggested that by bringing the interested Societies together, an Annual Show might be created which would long remain in the memories of the distinguished visitors.

The objectives and purposes of the Council are manifold. They provide for a central organization for Camellia Societies and their representatives to plan, advise, and to disseminate information relative to camellias. The Council is pledged to promote uniformity in nomenclature and classification of Camellias, and to stimulate and extend the growth, development, enhancement and appreciation of Camellias and similar plants of the Family Ternstroemiaceae.

Mr. Ralph Peer, the first president of the Los Angeles Camellia Council

can be credited with first conceiving the idea of the Council and, knowing that the Council would draw its strength from the existing Camellia Societies in the Los Angeles County, asked the presidents of the societies to select delegates and together representing their Societies to help form the Directors of the Council. Response came from the Los Angeles Camellia Society, the Pacific Camellia Society (of Glendale), the Southern California Camellia Society and the Temple City Society. In September, 1955, the Council was incorporated as

a non-profit institution. Mr. Peer, as President, headed the group for its first two terms during which the Council has served effectively. It is noteworthy that so far the Council has carried on its work without requesting contributions from member Societies.

At the beginning of this year, a fifth society, the Orange County Camellia Society, was welcomed to Council membership. Thus at this writing, the organization of the Los Angeles Camellia Council is as follows:

- Dr. Cecil B. Eshelman, President
- Mr. John Robinson, 1st Vice-President
- Mr. Frank Ramsey, 2nd Vice-President
- Mr. Don Roberts, Secretary-Treasurer
- Mr. Ralph Peer, Delegate at Large
- Mr. Raymond Noyes, President L.A. Society
- Mr. Douglas Thompson, L.A. Society delegate
- Mr. Paul McClelland, President Orange County Society
- Mr. Reg Ragland, Orange County Society delegate
- Mr. Alton Parker, President Pacific Society
- Mr. John C. Robinson, Pacific Society delegate
- Mr. Caryll Pitkin, President Southern California Society
- Mr. Edwards Metcalf, Southern California delegate
- Mr. Ernie Pieri, President Temple City Society
- Mr. Frank Ramsey, Temple City Society delegate

As the sponsorship of the ACS meeting in Hollywood in 1956 was the initial project of the Council, activities got under way as soon as its organization was complete. A suitable location for the first combined show was of primary consideration and Mr. Alton Parker upon surveying possible sites became convinced that the beautiful Descanso Gardens in La Canada (in the foothills above Pasadena) offered wonderful possibilities. Mr. Parker was assured that the County

would be happy to cooperate and through the offices of Mr. Norman S. Johnson, Director of the Los Angeles Department of Parks and Recreation, would lend its facilities to make the show a success. This combined effort by the Council would help to strengthen and publicize Descanso Gardens and in addition, the Gardens with its thousands of Camellia blooms would serve as an added attraction to the many who would be visiting the Gardens during the Festival. Because of the limited parking facilities available, it was felt that the first show was a real success. There were some 9,000 in attendance during the two days, February 25th and 26th, 1956. It was regrettable that the blooms were late this particular year but in spite of shortage of entries, those who attended will long remember the display of beautiful blossoms that were offered in their natural atmosphere of the Gardens.

The second Camellia Festival which was held in the spring of 1957 was presented during the period of greatest bloom activity. This was a great success which nearly 20,000 attended. The cut flower display and arrangements made this show the most successful in Southern California. Mr. Caryll Pitkin handled the general show management. The responsibility for making the flower arrangement week-end the success it was can be attributed to Mrs. Rose Gish. The main display was held under tents which offered protection against the gentle rain that fell during part of the show.

The Los Angeles Council is already formulating plans even at this early date for a greater Camellia Show to be held March 1st and 2nd, 1958 with the Flower Arrangement Show on March 8th and 9th. Mr. Harold Dryden has been appointed as Show Chairman with Mrs. Rose Gish again selected as co-chairman in charge of flower arrangements. A printed pro-

gram now being prepared by a committee will be given to each viewer as he enters the Gardens. Mr. John L. Threlkeld, the Superintendent of Descanso Gardens, has assured the Council that there will be improved facilities which will permit the displays to be seen more easily. The latest in lighting equipment will also add to the visitors' appreciation of the displays.

Through the office of Mr. Johnson, Department of Parks and Recreation, I have been authorized to reveal some of the advance plans for the proposed exhibit area at Descanso Gardens. These have been described as follows by Mr. Kenneth Rickerson, Landscape Architect of the L. A. County Engineer Department:

The proposed Exhibit Area covers approximately 100,000 square feet, being 600 ft. by 165 ft. It is immedi-

ately adjacent to the gardens proper. The background and side enclosures will alternate between rustic redwood panels and vegetative materials. Certain of the panels will be arranged so as to be adaptable to the display of paintings or other art work and trophies. The overhead will be attractively designed in color patterns made from weather-proof materials which will allow natural light penetration. Provisions will also be made for artificial illumination at night or on cloudy days.

From the above description it is obvious that up to this point the annual combined Camellia Shows have served as the major projects undertaken by the Los Angeles Camellia Council. However, that body is looking forward to sponsoring and cooperating in other camellia activities as suitable ones present themselves.



BLOOM BRINGING BEGINS AGAIN

A high point of each meeting of the S C C S is the exhibit of fine camellia blooms brought by the members. Everyone is invited to bring his best flowers to the meetings with the lure of awards at the end of the season for the flowers judged the finest.

Each exhibitor should be cognizant of the rules governing the awarding of points. For the 1957-58 season, these are as follows:

Japonicas

Will be in competition at each meeting with five places to be awarded, with points awarded on the basis of 5 for first place, 4 for second place, etc. — both in 4" diameter and under class and over 4" class.

Sasanquas

Will be in competition only at the November and December meetings. Three places, only, will be awarded.

Reticulatas

Will be in competition only at the March and April meetings. Three places, only, will be awarded.

At the end of the season, three trophies will be awarded, for first, second and third places — on the basis of total points accumulated.

A "non-competitive" table will be reserved for collectors who do not wish to have their blooms in competition.

It will be noted that several changes have been made in the rules in the hope that more members will bring blooms for display.

CAMELLIA SEED

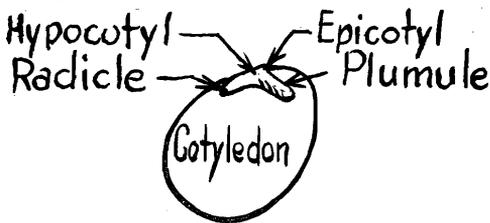
by PAUL R. DENNISON

Description

Books on taxonomy (classification) show that the tea family (Theaceae) includes the true camellia. Seeds produced in general are few, with little or no albumin (any deposit of nutritive material accompanying the embryo).

Mature camellia seeds are in general roughly ellipsoidal in shape, having each of their three axes in the length range of from $\frac{3}{8}$ " to 1". The seed has a rather impermeable seed coat of several layers of tough cells. This is made up of smooth, shiny, hard outer coat (testa), and an inner softer, membranous coat (nucellous), usually tan or white, portions of which remain attached to the outer shell. This inner coat appears dry and fibrous and can be seen on many of the seeds in the photograph; e.g., numbers 14,26,31,35. The outermost seed coat — portions of which are seen in the photograph of seed numbers 31 and 35 — is black or brown in color, and is tough enough to delay germination. Seeds from plants producing red or deep pink colored flowers usually are black and those from plants with white or light pink flowers are usually some shade of brown.

The hilum or scar on the seed coat which was caused by the attachment of the seed to the ovary and thru which the food passed to the seed, is readily visible as a light tan colored spot of approximately $\frac{1}{16}$ " diameter at one end of the seed. In the accompanying radiograph it would be at the thickest section of the seed coat. The embryo (rudimentary plant) of the seed is the resting or dormant stage in the period of development of the small living plant within the seed. The embryo can be seen on the accompanying photograph; e.g., numbers 12,39,40,51. It consists of (1) a radicle (rudimentary root) which emerges first in germination and develops into the root system of the camellia, (2) two cotyledons (conduplicate seed leaves), (3) the plumule sometimes called the epicotyl (rudimentary stem) which is a group of folded leaves so small that it is seen with difficulty between the cotyledons just above, (4) the epicotyl and (5) the hypocotyl or portion connecting the cotyledons and the radicle.



Camellia seed embryo (seed coat and one cotyledon removed)

In a mature camellia seed the embryo almost fills the seed coat. The largest part of the seed is that which contains the supply of stored food for growth of the seedling until it is large enough to make food. In exalbuminous seeds, such as the camellia and also the common bean, the food is stored in the two cotyledons. Camellia seed has little or no endosperm (reserve food stored around the embryo, such as develops independently of the embryo in an albuminous seed). Seeds are rich sources of carbohydrates, fats and proteins, as well as of mineral matter and other necessary materials and foods. Plants are classified according to the number of cotyledons or seed leaves of the

embryo, therefore the camellia is called a dicotyledon.

Testing for Viability

Persons doing radiation or other types of research with camellia seed must have viable camellia seed at the time of such experiments. Quite often fresh seed cannot be obtained at the time of the experiment and it becomes necessary to have some simple, rapid method of seed testing. Use of seed held over from a previous year without optimum storage conditions of temperature and humidity, or fresh seed which has been allowed to heat and dry excessively before use can negate the results of an experiment, or waste time, effort and money since such seed may have been non-viable prior to the experiment. Also viable seed may be required for experiments when there may not be time to run batch germination tests, and ordinary statistical sampling may not give a high enough percentage of good seed.

Seed testing also provides information for planting purposes and seed control work. Seed lots may differ in their germination requirements depending on such factors as: (1) length of time between harvest and test date; (2) conditions during seed maturation; (3) storage conditions subsequent to harvest. Maximum germination of camellia seed has been found to be expected of seed whose coat has not been allowed to harden. For cases where long storage of seed is necessary, use of an air-tight, cool-kept container is recommended.

Some methods which have been used in testing for prediction of seed viability are water flotation, relative weight, direct inspection, laboratory or batch germination, ultraviolet light, and X-ray.

Water flotation of seed has been tried, but some good seed float and some bad seed sink. This results from variability in relative size and weight of the seed "hull," and seed "kernel," and also in the relative impermeability of the seed "hull."

Relative weights of seeds might be used as indication of viability. The difficulty with this however, would be that size standards would have to be set up, e.g., seeds of $\frac{9}{16}$ " x $\frac{3}{8}$ " x $\frac{1}{2}$ " must weigh at least X ounces to be considered viable, etc. This procedure would take an exorbitant amount of time since the camellia plant is rather unique in that it produces seed pods containing seed in various states or stages of development from immature and unfertile to fully ripe, good seed with a rather great variation in size.

Visual inspection of camellia seed is not effective for use in estimating viability. Harvested camellia seed has a hard, shiny seed coat and only badly cracked or unusually deformed seed coats would indicate low viability, whereas many of the normally appearing seed may lack embryos or have only partially formed embryos. However, visual inspection of the embryos ("hulled seed") could be made and only the full, firm embryos kept (considered as viable).

In the laboratory germination capacity (viability) determination involves the actual testing (growing) of seed under the special conditions required by that seed. All plant seeds require water, oxygen, and a favorable temperature for germination, but the specific requirements for each species are various. Two other requirements for seed germination are non-dormant embryos and permeable seed coats. Dormancy which is common in seeds is a condition that prevents resumption of growth by a viable embryo when placed under conditions known to be favorable for germination of the kind in question. It may be caused by unripe or undeveloped embryos and by an impermeable membrane surrounding the embryo which then is denied the necessary exchange of gases.

Water cannot enter thru the impermeable seed coats to swell and weaken them and the seeds remain hard bright in appearance and unswollen for some time. Such seeds can be rendered permeable by (1) soaking in sulphuric acid, (2) rubbing with sandpaper, (3) cracking the outer hull (seed coat), (4) bumping the seed against a hard surface, (5) burning holes in the seed coat with an electric pencil.

Laboratory germination tests are made by placing the seed in damp: blotters, paper towels, soil, sand, peat moss, etc. The substrate is always sterilized and determined by the kind of seed being tested. Germination has been defined as sprouting of a seed or resumption of growth by a resting embryo. For large seeds it has been found that a medium which offers some resistance to emerging seedlings helps to eliminate the abnormal—broken, malformed or lacking one or more essential structures—and questionable seedlings. This is well accomplished by using sand—only a small percentage of abnormal and weak seedlings will emerge. Germination test aids used are: natural and artificial light, dilute potassium nitrate, soaking in water, and drying.

When a beam of light strikes a material it may undergo reflection at the surface; it may or may not be changed after striking the reflecting medium. The light may also be absorbed by the molecules of the medium. The subsequent re-emission of (light) energy previously absorbed as radiation (energy carried by emitted waves or particles) is called luminescence. The term fluorescence implies emission of a light from a substance only as long as the exciting agent is present.

This secondary radiation or fluorescence may lie within the visible spectrum. The most practical and widely used optical excitant is ultraviolet light. A basic principle in the use of ultraviolet light for analytic work, when empirical trends are followed, is that the factors entering into the production of a certain appearance or fluorescent pattern are so complicated that color or shade of fluorescence is strong evidence of composition, source, condition, and history of the material being studied.

The full fresh, viable camellia embryos (with the nucellous removed) fluoresce a brilliant lemon yellow color when exposed to long wave ultraviolet light such as provided by a Blak-Ray lamp. The older and more shriveled "kernels" fluoresce yellowish white to tan in color.

Various oils fluoresce a yellow color and it is possible that with older non-viable embryos the process of desiccation has been accompanied by natural volatilization of the camellia seed oil. Determination of quantitative and qualitative amounts of color and intensity of this characteristic fluorescence may be a good rapid check of viability of camellia embryos (shelled seed).

Additionally, by the use of ultraviolet light it may be found possible to distinguish species of newly germinated seedlings of the genus camellia. It has been helpful in other instances—for example, experiments with ultraviolet light have been made in which annual rye grass seedlings grown on filter paper have been separated from perennial rye grass by the unique ability of the annual rye seedling roots to fluoresce.

The use of X-ray fluoroscopy was considered but not chosen for further investigation since the images are too indistinct for minute observation.

The above germination methods and viability tests are all of too long duration or too impractical for some experimentation since they alter the natural harvested condition of the seed and/or because in embryo or germinated form the seed cannot be held and transported and held and transported again dur-

