Carolina Camellia Bulletin

ROCK HILL'S GLENCAIRN GARDENS

Published for the Members of
THE NORTH & SOUTH CAROLINA and VIRGINIA CAMELLIA SOCIETIES
VOL. XII SPRING 1961 No. 2

Here's your

CAROLINA GARDEN GUIDE

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CONTENTS

President's Message

PRESIDENT CARROLL

Appreciation Of Camellias Is On The Increase

The large attendance at Camallia shows throughout the area this season has shown that the general appreciation of Camellias is on the increase. The reason is apparent, for it is at many of these shows that new varieties advertised as fabulous, breath-taking, and superior to any currently grown, both in color, size, stamina, and otherwise are seen for the first time. It is there that new impressions are formed, some disappointments experienced, and perhaps irrestible desires for varieties considered indispensable are given a distinct shock when these varieties are viewed. It is there, too, that a warmer affection is realized for some old stand-by. And it is there, also, that new acquaintances are formed, new friendships made, and wholesome fellowship enjoyed. If you missed them this season, be sure to see the Camellia shows next season, for they seem to have become a fixture.

The slightest protection given the plants now enables amateurs and professionals to confidently plan shows without regard to weather, altho at times the "grown in the open" classes may have to be omitted. Seldom is there need for cancelations where these conditions prevail.

If only they had fragrance! If only they were cold-hardy! If only they were not susceptible to dieback! If only yellow was a basic color! Some lament if ony their size could be increased; others, if only the true worth of the smaller varieties were accorded them! And yet others, if only more importance were given the miniatures! How often have we heard such expressions!

They have also been heard by the National Research Council. Perhaps even its own members have indulged at times. It may well be that through the efforts of this dedicated scientific group shall come the solution of many of these problems. For if common Bermuda grass may be made as cold-hardy as wheat or oats which is now promised, then surely with the progress already made in hybridizing, the isolation of cold-hardy varieties, the discovery of a new variety (Toucreria) with a distinctly yellow bloom, though small and in July, which has already achieved some crosses, great things are in the offing for Camellia lovers.

John D. Carroll

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Glencairn Gardens, Rock Hill, S. C.

Rock Hill Garden Challenges State's Historic Beauty Spots

There's a new and exciting show place along South Carolina's famous and colorful garden trail this spring. It is Glencairn Gardens in Rock Hill.

Although it is located in the rolling foothills of the Piedmont area, only four blocks from the business section of this bustling industrial city, Glencairn is destined to share the garden spotlight with such famous and historic low country gardens as Middleton, Magnolia, Cypress and Brookgreen.

This garden is truly a delight to the senses. The eye is filled with color and harmony of textures, while the fragrance of wisteria is followed by the musk of boxwoods and the spice of pines. The refreshing coolness of the shade is enhanced by the sound of the fountain and cascades of water falling to the still quietness of the lily pond.

Distinctive

Pink and white dogwood, redbud and wisteria combine their beauty with flowering trees and the vibrant colors of the azaleas and camellias in a natural amphitheater. The blending of all this is especially distinctive, from the delicate white-green blooms of the tall and graceful white oaks down through increasingly deeper color tones to the rich reds and creamy whites of the lowest azalea.

Glencairn is open to the public without charge. There are no fences.

Glencairn Garden had its beginning in 1928 as a hobby when friends gave to Rock Hill physician David A Bigger several azalea plants. Dr. Bigger selected a small plot of damp protected soil in the wooded deer park adjoining his home. By the end of the first year, he had 400 hardy plants growing in an enclosed clearing at the foot of the hill.

The doctor and his wife first opened the garden to the public in 1940. They named it "Glencairn" for the Bigger family's ancestral home in Scotland.

Garden Grew

Through the years the garden grew to cover nearly five acres. The Biggers added to it a variety of plants, particularly camellias and azaleas, long associated with the Low Country gardens around Charleston.

After the death of Dr. Bigger, Mrs. Bigger continued to cultivate the garden. In 1958 she deeded the property to the city of Rock Hill to be maintained for the enjoyment of Rock Hillians and visitors to the city. Only months after she left her continuing memorial to the people of Rock Hill, Mrs. Bigger died.

The city took the garden under its care and engaged famed landscape architect Robert E. Marvin of Walterboro to develop a master plan for the garden.

Glencairn Garden lies on a northern slope adjacent to Charlotte Avenue, one of the city's main thoroughfares. The shape of the garden is similar to a wedge, with the point or tip and one side lying along Charlotte Avenue.

Terrain Magnificent

Architect Marvin describes its terrain as "magnificent. Over one half of the garden can be seen without even leaving the car."

The garden slopes from the busy street down to an upper pool connected to a main pool by five cascades, the focal point of the garden.

The quiet garden is sheltered from the city rush by towering oak and maple trees and plantings of dogwood trees along the streets. Scattered throughout the garden are wisteria and redbud trees.

The noise of city traffic dims into the background of water falling over the cascades into the lower main kidney-shaped pool, about 65 feet wide and 100 feet at its longest point.

Brick Staircase

The main entrance to the garden on quiet Crest Street is marked by a brick staircase down into the garden, the steps flanked by mass groupings of dogwood trees and sasanquas, with small boxwoods and periwinkle to be added this spring.

Mass plantings of azaleas and lemon-colored day lillies mark the second entrance to the garden on Charlotte Avenue.

A circular path of fine gravel winds around the garden about half-way down the slope, leading around and down to the pool and cascades. The path is bordered by six-foot American boxwoods with dafodil and tulip beds between the boxwoods and the path.

Beyond the pool at the northwestern side of the garden are

Circular paths and winding walks bordered by mass plantings of Azaleas, Camellias and many other plants are but another feature of Rock Hill's new garden.

great masses of azaleas, many of them over 15 years old. These mass azalea groupings are one of the most breathtaking spectacles in the garden when it reaches its peak in the third week in April. They are considered to be one of the largest collections of different varieties of azaleas in this part of the country. Many are rare and some nearly extinct.

Color Combinations

Architect Marvin has called them "collected in the best color combination of any large gardens I have ever seen."

Dr. Bigger developed these azalea plantings with pastels spotted with white dominating a background of red.

Through these brilliant azaleas wind informal pathways walked by thousands of visitors to the garden each year.

Surrounding the upper pool, bordered by majestic lirope (monkey grass), and the cascades, made of architectural concrete, is a concrete patio with built-up beds circled by seats. Planted in the built-up beds are pink dogwoods and periwinkle.

Immediately back of the patio is a crescent-shaped mass planting of azaleas in varied colors. White and pink crepe myrtle and dogwood trees form the background for the crescent azalea bed.

Long-leaf pines, strangers to the Piedmont area stretch northeastward along the pool and cascades back into the farthermost reaches of the garden. Through these pines will be developed a camellia trail between the cascades and the northern border of the garden.

Pastel Lights

At night delicate pastel lights play through the water rising from five fountains in the upper pool

and as the water spills over the cascades.

Architect Marvin is continuing to work with the city of Rock Hill to develop Glencairn Garden into a year-round garden with shrubs and plants to bloom nine or ten months out of the year.

With camellia, azalea, dogwood and crepe myrtle blossoms predominating, Glencairn is now primarily a spring garden. The city plans to add other shrubs and flowers to bring color to the garden the year round.

Using the master plan and working with Marvin, the city is continuing to develop the garden. Features still to be added are several small formal gardens at the northern end of the garden near the cascades, the camellia walk through the pines and reflecting pools below the main kidney-shaped pool.

The city hopes to enlarge the garden on its northwestern border to include a small creek and additional land beyond the creek.

Open To Public

City officials are expecting the garden this spring to show little effects of the extreme winter. On view for the first time will be a great number of shrubs and flowers planted by the city since last spring. The garden is open to the public admission free the year round.

Once a small private garden, Glencairn has found a spot in the hearts of all Rock Hillians.

Rare is the city council meeting at which some councilman does not ask of City Manager W. M. Kennedy, "How is the Garden developing, Bill?"

Glencairn is a civic project to which numbers of Rock Hillians have offered trees and shrubs.

If You Can't
Prevent them—
Control them

Nematodes

PAUL M. ALEXANDER
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Introduction:

The scope of human endeavors affected by nematodes is tremendously vast; so vast that it becomes practically mandatory, in an article of this nature, to limit a discussion of these animals to one of the four general categories commonly accepted by nematologists. These four broad categories include:

1 Parasites of man and other animals.

2 Parasites of plants.

3 Marine and brackish water species.

4 Free-living soil and fresh water species.

Although extremely interesting and informative articles could be, and have been, written on any one of the above, this article shall be restricted to plant parasitic nema- with but occasional reference to the other.

Many questions concerning nematodes have been asked of plant nematologists the world over by

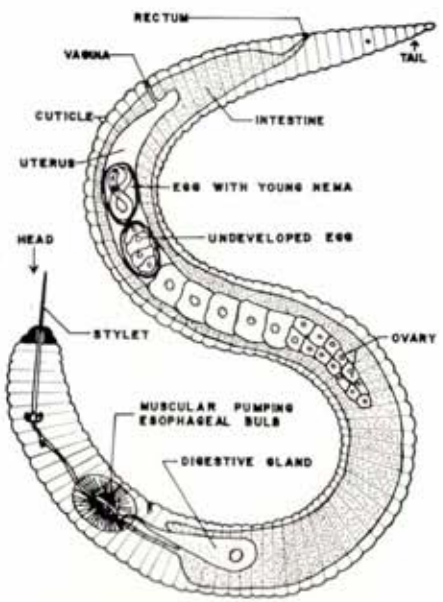

FIGURE 1 — General Characteristic of a plant parasite nematode, greatly enlarged, (after R. P. Esser, 1960. State Plant Board of Florida)

perturbed homeowners, nurserymen, farmers, and commercial concerns. Questions such as "What are nematodes?", "Where do they live?", "How do they move from one place to another?", "How serious is the injury they cause?", and "How can they be controlled or eliminated?", are commonplace. Some of these questions are answerable; others are still being investigated.

Description Of Nematodes

All nematodes are, at one time or another in their development, worm-like or eel-like in shape, resembling a minute earthworm or snake, even though no relationship exists between nematodes and earthworms or snakes. The length varies from 1/50 to 1/4 of an inch, whereas nematodes attacking animals—such—as the kidney worm of dogs and other mammals may attain a length of several feet.

A microscopic examination of a nematode will reveal that it has no skeleton, eyes, lungs, ears, hair, legs, blood, or blood vessels. If it does **not** have these characteristics, what remains that enables us to classify it as an animal, By turning to the microscope once again, we find that nematodes **do** possess a cuticle (skin), muscles, nerves,, digestive organs and glands, reproductive organs, excretory structures, and sensory organs. This, then, is what comprises the pest you have heard so much about in the past decade or so.

Feeding Habits:

All plant parasitic nematodes posess an outstanding characteristic not mentioned in the preceding paragraph: a hollow, needle-like structure known as a "stylet" or "spear" (Fig. 1 on preceding page), located in the "mouth" of the nematode is used much like a hypoder-

mic needle. When thrust into a plant cell, the pumping action of the esophageal muscles causes the liquid portion of the cell to be drawn into a body of the nematode through the stylet. When the cell is emptied, the stylet is withdrawn and the nematode moves on to another cell. With most nematode-plant relationships, the emptied cell dies; with others, the nematode secretes into the cell salivary material which causes the cell to enlarge and to continually replace the liquids withdrawn by the nematode.

As with most animals, nematodes have varied food preferences. Some species such as the root-knot nematode will attack hundreds of different plants; while other species, such as the sessile nematode, have been found on but one plant species. No single species of nematode, is known to feed on all types of plants and, conversely, no single plant species is known to be susceptible to all nematodes.

Root Feeders

Although the majority of plant parasitic nematodes are root feeders, certain species have been found in all organs of plants — seed, flower, fruit, stem, leaf, bulb, rhizome, root, etc. And, with our present knowledge, it is not unreasonable to state that **all** members of the plant kingdom are subject to attack by at least one nematode species; even bacteria, fungi, lichens, mosses, ferns, and algae are included.

Where Nematodes Live:

Think of any place where living organisms could exist — then go and look. You will undoubtedly find nematodes of one type or another. It is also possible to find them in places not normally considered to be habitable — hot springs, glaciers, blistering desert sands, the frigid tundra, and even in the famous red clay soils of South Carolina!

Populations range from just a few nematodes per pint up to several thousands per pint of soil; if it could be assumed that they were uniformly distributed in an acre of soil 6" deep, the resultant figure would range from a few million to several billions per acre. One recent South Carolina soil sample yielded a parasitic population of 6,000-plus nematodes; if this were considered under the foregoing premise of uniform distribution, a population of **12 billion nematodes per acre** could be expected. The study of population dynamics of nematodes is still in its infancy and it is here that many key questions (with respect to control) may be answered.

In Tissues

Nematodes (other than plant parasites) are also found in various tissues and organs of prac-

tically all species of the animal kingdom—fish, dogs, birds, earthworms, cattle, insects, spiders, whales, etc. The human race alone is parasitized by over 32 species of nematodes and a partial list of these diseases and nematodes includes trichinosis, pin worms, hook worms, dracontiasis, filariasis, elephantiasis, onchoceriasis, roundworms, and Guinea worm, which is referred to in the Bible (Numbers 21:6-9).

The free-living soil and fresh water nematodes are considered to be beneficial in that they feed on dead and decaying organic matter. By doing so, they speed up the rate of decomposition of organic materials in the soil. Some of these nematodes (Fig. 2) are beneficial in another way; they devour other soil-inhabiting micro-organisms such as bacteria, fungi, and mites. Their menu often includes some of their own kin — and other nematodes!

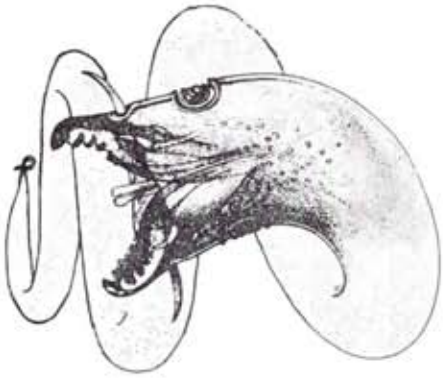

FIGURE 2—The Shark nematode (Selachinema ferox) a predator of other nematodes. (after N. A. Cobb, 1915, USDA Yearbook for 1914).

Finally certain nematodes have ben found in sources of drinking water—chemically treated and/or filtered. Fortunately, the overwhelming majority of these nemaatodes are not harmful to man or

are of practical use to the maplants, nor has it been demonstrated that they are carriers of organisms pathogenic to man.

Control Of Plant

Parasitic Nematodes:

As with human diseases, **prevention** of plant diseases is more desirable than **cure**, whether the disease is caused by bacteria, fungi, viruses, or nematodes. Because of the wide-spread occurrence of nematodes, however, prevention is not always easily obtainable and use must be made of other control measures.

Certain preventative measures can be followed with a minimum of effort:

1 Buy only certified seed or planting stock;

2 Examine bare-root plants carefully, rejecting any plant whose appearance is not up to standard;

3 Have the soil in the planting site checked for the presence of harmful nematodes **prior to planting.** Send at least 1 pint of freshly dug soil to the Department of Botany and Bacteriology, Clemson College, Clemson, S. C. If the planting site is fairly large, take several samples, mix well, and place in suitable container to prevent drying out. Be sure to state what type (s) of plant (s) are involved. If the soil is infested, chemical controls can be used;

4 Do not replant sickly plants in a new area with the hope that the new soil will "cure" the problem. If nematodes are involved, you will have succeeded in infesting another area;

5 Clean all tools thoroughly after each use or if moving from area to area in your garden;

6 Avoid the use of dead plants or pruned parts as a mulch or in a compost pile;

7 Check your plants periodically and **do not** rely solely on the presence or absence of root galls or knots to diagnose nematode injury. There are at least 12 or 13 genera of harmful nematodes in South Carolina which damage plant roots **without** causing galls or knots. There is even one root-knot nematode found here which does not cause typical root-knot symptoms. If you suspect nematodes, send a sample of roots, leaves, or other affected tissue(s) to the address given in (3) above, being sure to package properly to avoid dessication and to name the plant species involved.

Other control measures for nematodes diseases can be categorized thusly:

1 Chemical treatment of infested soil and/or diseased plant tissues;

2 Heat treatment of soil;

3 Exclusion of suitable host plant tissues (weeding);

4 Hot water treatment of diseased plant tissues;

5 Crop rotation;

6 Use of resistant varieties or species of plants;

7 Regulatory procedures, including quarantine laws;

8 Biological means.

Of these, only (1) (2), and (3)

jority of homeowners, with (4) being of use to those persons possessing the proper heat control equipment It is obvious that (5) would be of little value in small yards or gardens and that (7) is generally accomplished prior to purchase of plants by individuals. There is too little known about nematode - resistant ornamental plants at present to make (6) very useful to the homeowner and the study of (8) is still in its infancy. There are also many cultural control measures under study currently, such as sub-soiling, flooding, fallowing, etc., but these, too, are of little value to the homeowner.

Root Dip

Of the many chemicals formulated and tested during the past 20-odd years, only a handful are applicable to small-scale applications. Perhaps the best-known is 1,2 - dibromo - 3 - chloropropane, which is sold under the trade name "Nemagon" or "Fumazone." This chemical can be applied, with care, to many living plant species as a root dip or drench or to the soil as a soil fumigant. It is readily available in liquid or granular forms at a reasonable cost and is effective against many nematode species.

Parathion, normally used as an insecticide or miticide, has proven to be effective in the control of certain foliar nematodes, but this chemical is extremely toxic to humans. For this reason, it is not generally recommended for homeowner usage.

Soil Fumigants

Almost all of the other chemicals used in routine nematode control function as soil fumigants. In this category are included VC-13 (0-2,4-dichloroprenylo, o-diethyl prosphorothio-

ate), D-D Telone, and Vidden D (dichloropropene - dichloropropane mixture), Dowfume W-85, Garden Dowfume, Soilfume 85, Miscible Soilfume 75 Soilfume 40, Bromofume 40, and Nemex 42 (1-2-dibbromoethane), Dowfume MC-2, Bed-fume, and Pestmaster (methyl bromide pus 2% chloropicrin (teargas) for warning purposes), Mylone (3,5-dimethyltetrahydro-1,3,-5,2H thiadiazzine-2-thione) and Vapam 4-S (sodium n-methyl dithiovcarbamate). Any of these chemicals can be expected to effectively control nematodes for about one year, if used properly. It has proven to be practically impossible to eliminate **all** nematodes from a given area of soil, even when cost was not a limiting factor, according to a recent report from Alabama researchers. Thus, it seems as though we must "learn to live" with nematodes, as we have had to do with other pests and diseases.

Sterilizing Soil

For those persons interested in sterilizing small amounts of soil for container-grown plants, the kitchen oven can be of value. Simply spread the soil in a thin layer (1/4-1/2'" deep) on a cookie sheet or baking pan and place in the oven at 300-350 degrees F. for at least 2 hours. This treatment not only kills nematodes, bacteria, and fugi, but will also eliminate the majority of weed seeds. If the soil is rich in organic matter, an obnoxious odor will result so it is advisable to test a small sample first.

The old-fashioned art of weeding has not lost any of its value where nematodes are concerned. Since many of the parasitic nematodes will feed on weed tissues, it is best to keep weeds out. Not only does weeding reduce the immediate nematode food supply, but also lessens competition for available mineral elements by the cultivated plant roots, reduces soil water losses and improved the appearance of the garden.

If a nematode problem is suspected, do not hesitate to contact to contact your County Agent or the Department of Botany and Bacteriology, Clemson Agricultural College. Nematodes can be controlled or held in check if the proper steps are taken in time.

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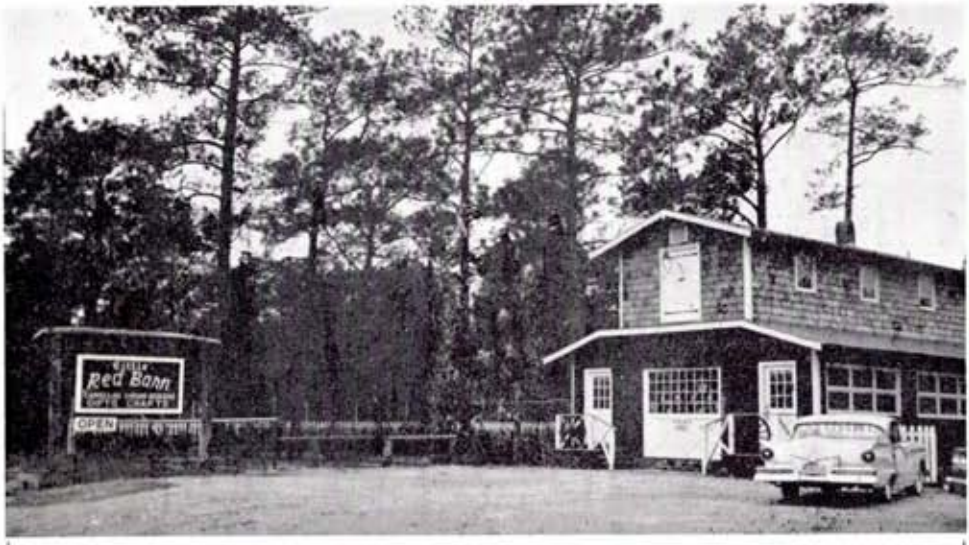

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LITTLE RED BARN

GIFTS — USUEUAL AND UNUSUAL

Hi-Way 17, Three Miles North of Georgetown, S. C.

Mary Alice Cox — Nursery Stock — Neal Cox

Flower Arrangement

By MRS. FRED J. HAY
National Chairman
ACS Arrangement Contest

★ ★ ★

Tools And Aids For Flower Arranging

Mrs. Fred J. Hay

While our flowers take a long drink and are becoming hardened, let's consider the mechanics of flower arranging. A designer of floral art has to learn to be something of a craftsman. The more she becomes adept with her tools the more assurance she will have that she can carry out her creative ideas. Margaret Carrick says that knowledge of mechanics is the "beginning of wisdom" for every flower arranger.

An arrangement should look finished, graceful, effortless, and it should be absolutely stable. Nothing can be more exasperating than to have a lovely design topple over just as it is finished. Strive, therefore, to master techniques, and acquire good habits of craftsmanship. It is fun also to use your ingenuity in many instances, and to find as you work that you never stop learning. There is always a new trick.

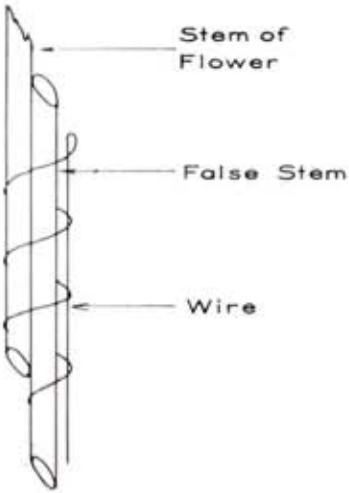
A list of basic equipment follows:

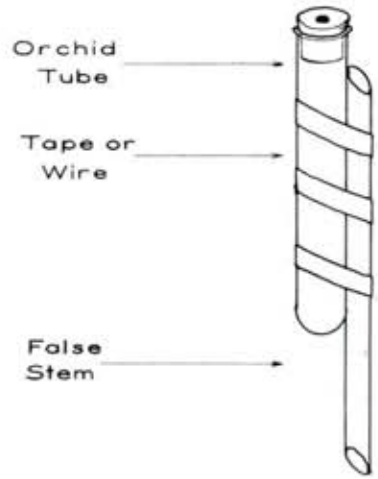
1. Floral clay and paraffin.
2. Pinholders in several sizes with sharp points—brass ones are the best.
3. Sharp clippers or knife. Better have both.
4. Florist wires in several guages
5. Twistums and Scotch tape.
6. Oasis
7. Orchid picks or tubes.

Floral clay is used to fasten a pinholder to a flat container. Roll a "pencil" of clay and attach it to the bottom of the holder around the edge. Now with a twisting movement press holder to the bottom of the container, and be sure that there is no crack in which the water can get under the holder. The clay makes it stick and also forms a suction cup.

Paraffin is used in place of clay in silver or pewter, as clay often stains these metals. Use also in clear glass for appearance sake. A coating given to the inner surface of alabaster containers is a good protection against stains. Melt the paraffin, cool slightly, then pour over a small area on bottom of container, and place holder on this. After it hardens pour a little bit more paraffin around edges to seal it and hold firmly in place. Some containers that are used often can be fitted with holders permanently in this way, and thus are always ready for use.

Wires and twistums are used to wire stems that are weak, or broken, or to attach false stems to





ones that are too short. **Oasis** is a plastic that absorbs and holds water. It is especially good to use in tall containers, or those in which pinholders will not work. Sometimes it is necessary to place a piece of chicken wire over the oasis to support heavy stems. It is also good for camellias or short stemmed flowers. **Orchid tubes** are used to place short stemmed flowers high in an arrangement or foliages or flowers that need to be in water in a fruit or dried arrangement.

To wire a camellia turn the bloom upside down. With two wires several inches long push completely through the flower head at right angles to each other pull the four ends together and twist. The camellia can then be wired to a false stem. Short stems can be inserted in orchid tubes or in gladiolius stems and thus continue to drink. These aids, of course, should be covered by foliage or other material. Mechanics should never show.

N. C. Camellia exhibit at the Southeastern Flower and Garden Show in Raleigh, N. C., February 24-28

Raleigh Spectacular:

Camellia Exhibit 'Wows-em' At Southeastern Garden Show

By
William P. Kemp
President
N. C. Camellia Society

Something new had been added — at least so far as the North Carolina Camellia Society was concerned. Our members have had experience with many camellia shows, but here was a chance to be a part of one of the really large national flower shows. It sounded like an opportunity to present our favorite flower in a garden setting and by specimen display to literally thousands of new prospective growers.

The management of the Southeastern Flower and Garden Show first presented the matter to us in the late summer of 1960.

It was carefully considered by our Board of Directors, and then before the Fall meeting of the North Carolina Camellia Society on November 5th in Goldsboro. Frankly, our members were rather stunned by the size, importance, and amount of work involved. Unfortunately, the show date was February 24-28, when a good many of our most capable members would be attending the American Camellia Society meeting in California. After a thorough discussion, the matter was left in the hands of our Board of Directors, who agreed to meet at the site of the show, The Arena in Raleigh, two weeks later.

Here we met with the show management, and were offered about 1,500 feet of space, at one of the two entrances of the Arena. We were also advised that we could expect all the assistance they could possibly give us, both in setting up the show and obtaining the necessary shrubs and bulbs that would have to be forced into bloom for the occasion. We were given a supplement of $500 as expense money to work on and got a much better idea of just what would be needed to put on a successful exhibit.

With these things in hand, Dr. E. W. Vaughn, of Greensboro, agreed to accept the chairmanship of the show, provided Mrs. W. P. Kemp, of Goldsboro, would take the responsibility of arranging for the garden exhibit. After much discussion and trepidation, it was finally decided to take the bull by the horns and give him a good big fling. Well to say the least, it was quite an experience.

Tremendously rewarding experiences involving help from our members, from the show manage-

ment and unexpected sources, would be followed by difficult delays and disappointments. Unfortunately, the show management was understandably inexperienced, and delays occurred. To us amateurs, among all the professionals, it was a strenuous time.

And now for the real silver lining to what at times seemed like a thunderhead. As the opening date literally seemed to dash forward, things began to fall into place. The beauty of the entire show, and of course to us, of our own particular display, began to unfold. Imagination plays such an important part in gardening, and to see this characteristic transformed into reality, is really something to watch.

Then came the crowds many, more than we expected — about seventy thousand in all. At times, our display was six and seven deep with a long line of garden enthusiasts.

Expressions of appreciation and surprise came from all sides,, and poured soothing oil on our sore muscles and frayed nerves. We would be unforgiveably modest if we did not recognize the entire show and our own display as being extremely successful. We had succeeded in showing our wonderful camellia flower in a favorable setting to literally thousands of garden lovers.

How can we express our appreciation to the many society members and friends who did so much to make for this success. I dare not start with names, it would take several pages, and I know someone would inadvertently be left out. All we can say is bless you every one for such thoughtfulness and untiring effort. You have lived up to the wonderful reputation of the Camellia fraternity throughout the Country.

When Callus Has Formed Remove Jars In Late Afternoons

The January issue of the Bulletin carried an article which asked the question, "Is Special Care The Answer To Success In Grafting?" This article has created considerable comment and interest with most of the comments being on the side of special care. In view of this we are quoting below a part of a letter which we received from Marvin Rogerson of Rogerson's Garden and Nursery of Florence, S. C. This letter gives in more detail the exact technique used by this successful grower.

"When I talked to you in Florence, or should I say, answered your inquiry as to what I contributed my success in grafting to, I had no idea that you were to publish my remarks in the Carolina Camellia Bulletin. For that I am very grateful; however, had I known that my remarks were to be read by thousands, many of whom are such novices that they may take me literally, I would have been more in detail. I have in mind the remark about removing of jars on cloudy days prior to the grafts actually starting to grow. That is correct, provided there is enough moisture in the air, such as raining or what we call a drizzle or misty atmosphere to keep the scions from drying. The advantage of removing jars, in my opinion, was, as stated, to supply fresh air, thus combating fungus, our worse enemy to the art of grafting.,

Signs Of Wilt

I have found that on cloudy days, not all but many, grafts have a tendency to show signs of wilt more than on some sunny days. This depends on the humidity and also on the temperature, including the wind velocity.

We do not always wait on a graft to start growing before we remove the jar entirely. We notice the callus or growth between the

scion and the understock. Many scions will start to grow, showing no signs of a callus. To remove the jar from a graft of this type for any length of time is almost certain to be one that you may tell your friends that it took but for some reason died. In reality it had not taken entirely. It would have if left covered.

If a good callus has formed, yet the scion has not yet grown, the jar has served it's purpose. I suggest removing the jar late in the afternoon, recovering with the jar the next morning. Repeating this several times, until the color of callus has turned amber, then leave it uncovered and let it grow. It will grow as any other new growth in your garden, wilting only when other new growth on old plants wilt.

Personal Attention

Thanks to Mildred, my wife, there is hardly an hour on dry days between the hours from 9:00 A.M. until 4:00 P.M. from May until July or later that we do not walk over our entire grafting area, observing, replacing and removing jars. We do not give air gradually, as has ben recommended by so many: however we do not disagree with the method, if you have been successful in the practice.

"At this time I would like to emphasize, that if a person is having satisfactory results with his or her present method, he or she should never change. I am not, at least as long as I continue to get between 94% and 97% takes each year."

We feel that the above details of special care will be of interest to all our readers and may, if followed, mean more success with your grafts this year. We are sure that most of us will be glad to settle for 94% to 97% takes which Mr. Rogerson has each year..

Survey To Select 100 Best Camellias Continued Until Fall

In the Winter issue of the Bulletin we requested your help in selection of "100 Best Camellias." At that time we wrote as follows:

"You will note that we are not asking you to rate the varieties or asking you to list the one that perform most satisfactorly for you. What we want is a list of your favorites regardless of other factors.

The reason we want this information on this basis is because we feel that this will automatically give us your list of 25 best. This may mean that you will include one or two that are not top performers on the basis of a performance rating. However, the mere fact that you list them is an indication that they have some quality or feature that makes you want them in your yard in spite of some drawback they may have. If you feel this way about a variety it stands to reason that somewhere someone else will feel the same way about that particular variety."

The response to this request for your help has exceeded all expectations. Readers from all parts of the country have sent in their lists. While we did not ask for comments, many readers did write letters which showed that they had given much thought to the selection of the varieties on their list.

For example one grower wrote as follows:

To help you with your survey to select the "100 Best Camellias," I am listing my 25 favorites below. I am glad you did not insist on them being in order of my preference as I have worn out two erasers just adding to and taking off."

In addition to a list of 25 favorites we also asked for the name of 1 camellia you had rather have if you could have only one. The thought given to the selection of this one camellia is illustrated by the writer of the following:

"The vote for just one cultivar is much more difficult for me. I finally eliminated them down to Berenice Boddy, Drama Girl, Dr. Tinsley, and Ville De Nantes. I eliminated the Ville, for I would have such a short blooming period.

I finally eliminated Dr. Tinsley, which I consider probably the best all-around variety save that it starts blooming too late. I had a struggle between Drama Girl and Berenice Boddy, but I finally vote for Berenice Boddy.

Here's a plant that blooms in our yard for five to six months, will open its swollen buds within twenty-four hours after the lifting of the freeze, gives us fairly early blooms—always for Christmas, corsages for weddings, debutantes, etc., and for a tremendously long period. True, the flower is not as large as some, but it's a gorgeous shade, it lends itself to corsages and events, and if I could only have but one, this would be it.

I am glad I am not so limited."

ONE FAVORITE

In the selection of the one favorite camellia it was not even a close race. Ville De Nantes got almost as many votes as all the other varieties combined. There were a total of 16 different varieties selected as the one favorite. Of these only Donckelarii, Lady Clare, Betty Sheffield Supreme, and Berenice Boddy, in addition to the Ville, received more than one vote.

This list of one favorite camellia is listed below:

Ville De Nantes	15
Lady Clare	3
Donckelarii	3
Berenice Boddy	2
Betty Sheffield Supreme	2
Adolphe Audusson	1
Dr. Tinsley	1
Ethel Davis	1
Tomorrow	1
Lady Kay	1
Thelma Dale	1
Mathotiana	1
Rosea Superba	1
Tricolor	1
J. J. Whitfield	1
September Morn	1

Not only was Ville the top favorite in the above classification but of all the list of 25 favorites there was only 1 list that did not include Ville among the 25 favorites.

25 FAVORITES

Actually there were a total of 229 different varieties listed on the various list. However, of this total 100 varieties received only 1 vote and 36 varieties received only 2 votes leaving a total of 93 varieties receiving 3 or more votes.

The response and interest in this list of favorites has been such that we do not feel it advisable to close the study at this time. Therefore, at this time we are only giving a preliminary report on the 25 varieties that, at the present time, make up the top 25 varieties.

This will give those who have not yet sent in their list an opportunity to do so and then in the Fall issue of the Bulletin we will give you the final tabulation of the "100 Best Camellias." Perhaps as additional list come in the order of preference may change.

While this is not a rating system in the scientific sense, we do feel that from a practical standpoint, the best possible recommendation for a camellia is the fact that people like and grow it.

How to tabulate these camellias or rate them poses a problem. We have finally decided that the simplest and fairest way will be to list the varieties in the order of the number of votes each received. The preliminary list of 25 favorites, in order of preference, is given below:

Ville De Nantes	35
Daikagura	22
Lady Clare	22
Betty Sheffield	22
Donckelarii	21
Dr. Tinsley	20
Mathotiana Supreme	20
Magnoliaeflora	20
Tomorrow	19
Adolphe Audusson	17
Reg Ragland	15
R. L. Wheeler	13
Lady Kay	13
Pink Perfection	12
Herme	12
Guilio Nuccio	12
Flame	11
Debutante	11
Drama Girl	11
Mathotiana	11
Pink Champagne	11
High Hat	10
Marjorie Magnificent	10
Winifred Womack	10
Berenice Boddy	10

We dare say that this list, and the order of popularity, may come as a surprise to some. Certainly some of the old varieties are holding their own and this was particularly true when we tabulated the balance of the varieties included in the "100 Best."

It is also interesting to note the difference in popularity of the varieties that are actual favorites and the "Best In Show" winners for 1960 as given in the "Best In Show" article in the Winter issue of the Bulletin. With the exception of Ville and Tomorrow, most of those winning "Best In Show" awards are rather far down on the list of favorites and several do not even appear on the list of "100 Best."

Perhaps this should give our judges something to think about when they next select the "Best In Show."

We feel that the information received in this survey is not only most interesting but can be of great value to our readers. We will look forward to receiving your comments and additional list of favorites if you did not send in one before.

Please send the information to:

Carolina Camellia Bulletin
P. O. Box 166
Rock Hill, S. C.

Has Advantages!

DRILL GRAFTING

By W. M. Quattlebaum
Charltston, S. C.

King Soloman said, "There is nothing new under the sun", which statement I doubt not in the least. However, it was new to me and it may be new to you, that is, this thing I call "Drill Grafting".

I call this method "Drill Grafting" simply because a small hole is drilled into the side of the stock for receiving and holding the scion instead of splitting the stock as is done in cleft grafting. With exception of drilling the hole and preparation of the scion, there is no difference between drill and cleft grafting.

No claim is made that drill grafting is superior to other methods nor do I vision cleft grafting becoming a thing of the past. However, judging from early results, it appears as if this method has merit and may prove to be a popular method of satisfactory grafting.

Proof Positive

In proof of early results, the photograph, Fig. 1, was made in February 1960 which shows results of a drill graft using a scion of Mrs. D. W. Davis, the grafting having been done in early July 1959. After conducting several satisfactory experiments with this method, the graft was made, with my assistance, by my neighbor — Mr. C. Leroy Clark. Mr. Clark inserted a scion, perhaps 1-8" in diameter into a drilled hole in understock which had been unsuccessfully grafted in early 1959. Though the scion was placed straight into the stock, the plant grew practically straight up. It has an unusually

Fig. 1—Photo of successful drill graft by author.

healthy union between the stock; its size and rapid growth appears to be all that could be expected from any graft approximately six months old. This plant, in December 1960, has four large, well shaped, healthy buds which, baring unforseen adverse conditions, should in due time produce fine blooms.

Drill gratinf appears to have two distinct advantages over cleft grafting. First, the stock may be 5 or 6 inches longer than for the usual cleft graft. This, I think, gives the stock a better chance of survival and a tendency to put out new growth, thus causing nourishment and healing fluids to flow freely around and into the scion. The excess stock may be cut off,

Fig. 2—Hole in stock slightly smaller than scion.

Fig. 3—Scion rounded on tip and bark scraped off for about ¼ inch

Fig. 4—Scion tightly fitted in hole—and covered with jar.

even a year or so after the graft has been well established.

Heals Quicker

The second advantage is in the matter of healing. With cleft grafting, the stock is split an average of 1½" which means that there will be two wounds on each side of the stock or a total of six inches to heal if the graft is to be entirely successful. With drill grafting, using a 1-8" hole, there is a little over 3-8" of healing. This difference, I believe, saves a lot nourishment and energy for desired plant growth. Of course, the top of the stock must also heal, but this will be the same, regardless of the method used.

Tools required for drill grafting consists of an inexpensive hand drill with an assortment of bits in addition to those customarilly used with other grafting. I prefer a hand drill because electricity isn't always available and with an electric drill there is a possibility of drilling all the way through the stock. Of course, it is possible to drill all the way though the stock with a hand drill, however, in case this is done, the extra hole can be plugged with another scion, perhaps from a less desirable variety. This, like the excess stock, can be cut off after the desired graft takes and survival is assured. I have ten bits ranging from 1-32" to a little over 3-16" in diameter.

I make drill bits by cutting off the head of small nails and flatten the point. These work pretty well as a substitute for real "store-bought" bits.

Fit Tightly

I find that scions 1" to 1½" long are excellent for drill grafting, therefore, after cutting the scion to the desired length, compare the stem of the scion with bits and and select a bit slight smaller than the scion. This is to be assured that the scion will fit tightly into the hole and cause cambium layer of the scion to make contact with the cambium of the stock.

The principal steps in drill grafting involve drilling the hole and preparation of the scion, therefore, after selecting the desired bit, drill a hole straight into the stock at a point 2" or 2½" from the ground. Regardless of how the hole is drilled, straight, at an agle or otherwise, the plant, if the scion takes, will grow up and not horizontal to the ground. The hole should be about 1-4" to 3-8" deep.

After drilling the hole, the tip of the scion should be rounded-off so that it guides the scion into the hole. Then the bark is removed from the end of the scion for a distance slightly shorter than the depth of the hole. This is to assure the bark and combinum of the scion contracting the bark and cambium of the stock.

Practice On Tip

Before attempting this method of grafting, it is suggested that the grafter practice removing the bark on the tip of scions from worthless material. Should the scion appear dry and hard and difficulty found in removing the bark from the tip, soaking the scion in water for 15 to 30 minutes will usually soften it so that the bark can be easily removed.

After rounding the tip and removing the bark, force the scion into the hole being sure that there is no gap between the bark of scion and of stock. After this, cover graft with jar and the jar with usual material to protect the graft from extreme heat.

That's all there is to it. Fig. 2, 3 and 4 show stock, scion and complete graft.

The writer has made a number of very successful drill grafts and only a few failures were encountered. Drill grafts appear to grow much faster than other grafts, at least they callous and start growing in much less time than cleft grafts. Three weeks and six days is believed, the shortest time I've noted from grafting to active positive growth from a drill graft.

I trust that my above discussion of drill grafting does not appear complicated and that others will try this method and surely improve on my technique. I shall be glad to hear from any one trying this methods.

Party-Line Talk

What's New

Music Can Affect Growth of Plants

We all know the many ways that music has been used in recent years. In addition to the traditional use for dancing and just plain listening many manufacturing plants now "pipe" music to their workers.

It has been proven, that when workers have the proper type of music in the background, they are not only happier but their production increases.

As a matter of fact, many dairies now play music at milking time for the cows. According to test, it is claimed that the music, not only makes the cows easier to milk, but that the cows give more milk and that the milk is even sweeter than "non music milk."

We do know that "'music soothes the savage beast" and that actually music can influence the actions and moods of people. To borrow a phrase, "Lives there a

man with soul so dead that his heart does not beat just a little faster when the National Anthem is played." The expression "foot patting music," is merely a way of describing music that, because of its "beat," sets off a sort of automatic reflex in us that causes us to start patting our foot in time to the music.

Music Affects Plants

Now it is being claimed that music can also affect the growth habits of plants. We have recently read of various test that have been made with plants by exposing them to different kinds of music.

In one such test five groups of bean plants were used. The first group was exposed to rock'n roll, the second group grew to dixieland, number three got the jazz treatment, four had Braham's classic, and the fifth group had no music but had to grow in silence.

The champion bean growers were those that grew to rock'n roll. The puny plants were those that had no music.

With just a little imagination it is not difficult to see that music may revolutionize the camellia world. Just think of all the possibilities that this new method of controlling growth will open to camellia fanciers.

Of course you will have to be careful in the selection of the music to be played for your plants or you may run into difficulty.

For example, it would be disastrous to play "Don't Fence Me In" to container plants. If this song was played to them they would probably burst right out of their containers.

Rock'n Roll

Then it would not be advisable to play rock'n roll for greenhouse plants since if they started to rock'n roll they might break the greenhouse windows.

Of course there would be advantages as well as disadvantages. For example, if you wanted some blooms for Easter then select a plant and play nothing for it but "The Easter Parade." It would naturally bloom only at Easter. Perhaps "The Good Old Summertime" would give you some summer blooms.

Then of course, for those who do cross-pollination, the playing of the "Wedding March" would be sure to insure success.

There are of course those growers who want to grow them bigger and bigger. Imagine what would happen if they played "She's Too Fat For Me" to a Drama Girl. The bloom would probably be so large that would have to be turned sideways to get it through the door. Who knows, it may be that if "Stars and Stripes Forever" is played for a Ville the resulting bloom will not be just the usual red and white, but also red, white, and blue.

NEW COLOR

Of course, if you are trying for new colors, you will have to be careful for it would never do to play "Purple People Eaters" for, although you might come up a purple camellia, it would eat people. Something like "My Blue Heaven" would be a much safer tune.

There are many other avenues to explore. For example if you played "Yellow Rose of Texas" you might come up with a new hybrid. However, I fail to see the advantage of a camellia plant with thorns on it.

As previously stated it is our duty to bring to you all the latest developments so that you can do your own experimenting. This you do at your own risk.

Bear in mind that there is no "payola" involved in this. So turn up the stereophonic and stand back.

GREENHOUSE CULTURE

Regular Bulletin Feature

Camellias, like most plants, will grow, and even do well, under a variety of conditions and treatments. However, there is one element of camellia culture that will do more to either help or hurt, as the case may be, than all other factors combined. This element is soil.

The reason for this is that, with the exception of light and temperature all other cultural requirements of camellias are dependent on the soil in which the plant is grown. The soil must provide for **all the basic requirements** of the plant which is growing in it.

The University of California College of Agriculture has done considerable research on soil mixtures and has published the best Manual on this subject which it has been our privilege to see. The following information is quoted from Section 6 of this Manual having to do with functions of the soil.

Support

"Most crops require some means of physical support. Unless artificially provided this is a function of the growing medium.

Moisture

"The living plant is largely composed of water, which must be obtained from the soil in which it grows. A good growing medium should have a reasonable ability to hold moisture in sufficient supply for plants requirements between irrigations. Water is more limiting to plant growth than such

items as fertilizer, salinity, or alkalinity, which are so often blamed.

High salinity may virtually make soil water unavailable to the plant because dissolved salts increase the asmotic pressure in the soil solution. If the concentrations outside the root approach those within it, owing to dissolved salts, water movement into the plant is restricted.

Since containers have limited depth, a boundary exists at the bottom in contrast to a continuous soil column in the field. This boundary constitutes a restriction to free drainage (Baver, 1956; Huberty, 1945). Thus, soil in a container will retain more moisture available to plants after an irrigation than it would in the field.

Large quantities of water are lost by the plant through transpiration; when the plant wilts, this indicates that loss is greater than the supply from the roots.. Although this is the major plant use of water, it is by no means the only important one. Water is the solvent in which minerals are taken into and transported through the plant. The two elements comprising water, hydrogen and oxygen, play individually important roles in plant metabolism. All of the organic materials of plants contain large quantities of each.

The fact that plants can be grown in water (culture-solution growing) indicates that **there is no such thing as excessive water where other basic requirements are satisfactorily met**. On the other hand, plant growth unquestionably can be restricted by conditions which subject the plant to increasingly deficient moisture. Frequently this point is overlooked by the grower unless he happens to have a comparison available.

Aeration

The roots of a plant obtain the raw materials, water and mineral nutrients which are carried upward through the stem to the leaves. The tops act as factories, synthesizing the compounds required for growth and reproduction from these materials and carbon dioxide from the air. For roots to function normally they must be supplied with a source of energy and an environment favorable for utilizing it. The top of the plant provides the sugars and other carbohydrates, which are transported through the stem down to the roots, where, through respiration, they supply the energy necessary for root function.

Respiration, as in the case of animals, requires oxygen and produces carbon dioxide and water. Oxygen is also required for respiration in other parts of the plant, but the supply there is nearly always adequate. Because of the tiny pore spaces in soil through which the gases move, aeration (oxygen supply and carbon dioxide removal) of the roots can readily become limiting. A good soil mix must insure the best possible aeration consistent with other requirements. **The additional moisture retained by soil in a container reduces the air space. It is therefore, important that the container soils have a maximum porosity.** It is primarily by diffusion that gases move into and out of a soil, though applications of water may also be effective in displacing soil air, particularly in containers. If the soil pore spaces are very small water will fill them and reduce aeration until the water content has been lowered by evaporation or transpiration.

Mineral Nutrient

At the present time most green plants are known to require at

least twelve chemical elements (nitrogen, phosphorus, potassium, calcium, magnesium, sulfur, iron, zinc, manganese, copper, boron, and molybdenum) that are obtained from the growing medium by the roots. Foliar feeding may be used to supplement root absorption. A fertile soil is one in which all of these elements are present in adequate but not excessive quantity. A good soil mix must therefore contain them, or the growing procedure must provide for their supply during plant growth.

This function is made possible in part through the breakdown of organic matter, native mineral soils, and fertilizers in the complex activities of soil microorganisms, as well as fixing atmospheric nitrogen to make it available to the plant. To this extent they are properly considered as a necessary part of the soil environment of the plant.

As with moisture, it is important that the supply of these minerals be continuous rather than intermittent. The greatest problem occurs in maintaining proper nitrogen supply.

We are sure that after reading the above you have a much better understanding of soil and it's relationship to growing plants. It is easy to see that it is not only important to have the correct kind of soil mixure but an absolute necessity if you are to grow fine plants and flowers.

At a later date we plan to furnish you with additional information from this Manual with particular emphasis on soil mixtures.

Rainey & Farmer Elected To ACS Posts

The North Carolina Camellia Society has reason to be proud of the honor that has been bestowed on its member Dr. W T. Rainey of Fayetteville, N. C.

At the annual meeting of the American Camellia Society held in California in Feb. Dr. Rainey was elected Vice-President of the ACS representing the Atlantic Coast territory. The ACS is to be congratulated for its election of Dr. Rainey to this high office for he is an individual who will lend prestige to the office.

Dr. Rainey succeeds Dr. J. M. Habel, Jr. of Suffolk, Va. who has had the honor of serving the Society for several years in the same post.

Elected President of the ACS at this same meeting was C. W. Farmer from our sister state of Georgia. Charlie Farmer has previously served the Society as state director from Georgia and has given freely of his time in serving on important committees in the ACS and continued success and growth of the ACS is assured under his administration.

He succeeds our own Caston Wannamaker of Cheraw, S. C. as president of ACS. It was under President Wannamaker's administration that the Journal of the ACS was revamped, the headquarters of the Society moved to Tifton, Ga. and a new Executive Secretary-Editor elected.

We know that under the capable leadership of its new officers the ACS will continue to grow and develop as the national Camellia Society.

Native South Carolina Plant Is Member Of Camellia Family

By J. E. REAVES
Bishopville, S. C.

Stewartia —(Malachodendron) — A native plant, and very rare, is a splendid plant to use as a specimen or companion plant in your garden.

Stewartia will do well in the upper or middle south. The plant belongs to the Cornus family the same family as our white and pink Dogwoods, Stewartia Peniatyna, (Mountain Stewartia) is another species. The first named variety is considered the better of the choice variety, although both are good.

Stewartia blooms about Mothers Day and later (June, July, August) in more northern locations. It is one of our showiest flowering shrubs and is as pretty or prettier than an azalea in full bloom. The bloom is about three inches across, flat shaped (some species rose-shaped) somewhat similar to the bloom of the common Maypop or Passion Flower, in shape, with a cone of stamens in the center. Imagine a sparkplug white May-with a miniature ice cream cone pop (Passiflora Incarnata) bloom shaped bunch of stamens, and you have it. The **bark** is similar to that of the **Dogwood.**

Same Treatment

Stewartia requires about the same treatment; soil, good drainage, lots of humus etc., as camellias and azaleas. It will grow into a small, beautifully shaped tree and the blooms hold well. It is disease and insect free. Will stand full sun, but I think high partial shade is better, and it requires no petting after being established. It stood all of the cold, snow, and low temperatures we had this past winter.

Mature or blooming size plants will put on seed pods that look exactly like a miniature persimmon, or a small finger tip size swiveled green tomato after frost has hit it. The pulp or outside hull is slightly fragrant. The seed are void, or false seed — probably one in a thousand may be mature and fertile — all other sterile. The seed pods crack open like those of a Camellia Japonica or sasanqua, but no seed is mature. I do not know of a known seedling, however, I imagine the wild plants were propagated in this way. Hence it is scarce. Nature is truly wonderful.

Decidious Plant

The plant is decidious and not an evergreen. The foliage of the Stewartia is similar to our Dogwood. You can see the family connection by comparing their leaves. On the Stewartia, the leaves are considerably smaller and start falling earlier than its country cousin the Dogwood and the limbs are usually bare before frost.

This plant is extremely rare, as stated above. It is a native of South Carolina and some adjoining states. It is as rare as the Gordonia-Altamaha, or Frankliana,

that was found by Betram in the swamps of the Altamaha River in Georgia and then lost for approximately 50 to 100 years when another plant was found. G. Altamaha and G. Lasianthus are now available at some nurseries. Both are worthy, but the latter seems to be preferable.

Some years ago the late Dr. W. A. Coker, University of North Carolina, discovered a Stewartia plant near Segar's Mill (Black-Creek) near Hartsville, S. C. I know of only five mature plants or trees in South Carolina. Three are in the wild — on the banks of streams or river swamps, one that has been moved from just such a location to the landowners yard, and one is near Beaufort, S. C. It was given to a Beaufort Garden Club by a northern resident.

On River Banks

Stewartias usually grow on a high bluff on a river bank which indicates good drainage. The three wild plants are all widely spaced, on one South Carolina River, or its tributaries, names of River and Landowners withheld; I think this best.

Years ago, about 1914, I resided in Kingstree, S. C. There was at that time, one plant in Black River swamp behind the county jail. (No, my residence was not the jail). People would come long distances to see it in bloom. Unfortunately, this tree went the way of so many of our choice pants, it vanished. It may have been dug up and carried away, probaby to die. I also know of another plant that had the entire top cut out.

My first knowledge of Stewartia, was an article written years ago, about two plants growing in large urns by the door-way or entrance to an old home in Charleston, S.C. They too vanished, so I am informed.

Highly Prized

Stewartia can be propagated by ground layering, and I imagine, by air layering. One of the largest commercial gardens in South Carolina has less than a half dozen cuttings down to root under mist. The writer has a few small plants of Stewartia-M, but none for sale. We have 800 varieties of Camellias accumulated and collected over a period of 25 years and call our ¾ acre garden "The Largest Garden-of its size-in the Carolinas." There are a few small Stewartia plants scattered about in the Pee Dee Section of South Carolina and some in Columbia, S. C. They are all highly prized. I am glad to state that a few plants will be available soon, so get one if you can, and grow it out with your camellias. Help to keep this very worthy plant from extinction. As a collector of rare, or out of the ordinary plants, I would advise you to give Stewartia

Malachodendron a try. You will not regret it.

A few Northern Nurseries list very small plants of Stewartia (no variety specified) at exorbatant prices. Personally I prefer local or southern grown plants. Other varieties of Stewartia are: Stewartia Monadelpha (tall), Stewartia Koreana (Korean). But Stewartia Malchodendron is the choice variety.

All of the above is from memory, observation, and reliable information, with little reference or research. If you see an error, please overlook it.

Fall for Stewartia Malachodendron and it will shed its leaves for you in the fall and bloom beautifully in the spring.

CORRECTION: Did you let me fool you? All the Stewartias are lesser known relatives, of your beloved Camellias and belong to the same family; Theaceae (Tea), and is only one — of the many — Genus — of the large family. Nature packed as much beauty in the Stewartias, with its wax white blooms, as in your varieties and hybrids of C. Japonica and C. Sasaqua, etc. Other members of this family, in addition to Stewartias and Camellias, are Tea, Franklinia, Schima, Gordonia, Eurya, Japonica and Cleyera J. and many others. (I can not find a bad one on the list) "Some relatives, make good companions."

Please remember — Frankliana — Alatamha (named for Benjamin Franklin) native of our Sister State — Georgia, is now extinct, in the wild, and found only in cultivation, and from a few Northern Nurseries, at high prices. A monument has been erected to this plant, near Jesup, Georgia—Highway 301, and near the only location it was ever found, in the wild, in the Alatamha River Swamp.

Thank you.

Calling The Chemists —

What Is This Anti-Freeze?

By WENDELL M. LEVI
Sumter, S. C.

It was November 30, 1960 in Sumter, South Carolina. October and November had afforded beautiful autumn weather save for one dip to 24 degrees on November 8. This was of short duration, with little cold damage. The blooms of our Debutantes, Yohei-Hakus (September Morn), **Daikaguras**, both variegated and solid and of **Are-Jishi** were particularly pleasing. Many sasanquas were in full bloom. Ko-Gyoku (Little Gem) was a bower of white. **Gov. Mouton** had a number of blooms. The **Joshua E. Youtzs** were outstanding. There were single first blooms on **James Hyde Porter, Cardinal Richelieu, Rose Dawn (2), and Bride's Bouquet.** Other early bloomers were very late in opening.

Then came the freeze! On Dec. 1—23 degrees, Dec. 2—21 degrees, Dec. 3—15 degrees, Dec. 4—18 degrees, Dec. 5—26 degrees, Dec. 6—29 ,degrees. Water in the bird bath stayed frozen solid. Every bloom on every camellia plant was brown and seared.

Not every bloom in the garden, though, was destroyed. There was a touch of color! A dozen or more small, fragile white blooms on our old-fashioned early narcissus (species ?) were unscathed. The cold had had no ill effect upon them. They were in full pristine beauty—untouched by the cold.

The Question

What caused this phenomenon? What substance, if any, did the little bulbs, the several blades, and the delicate blooms contain to bring this about? What is this "anti-freeze" element in this species? Can it be isolated? If so, can it be synthetically manufactured? If so, will it be cheap enough to be in the reach of all. Assuming it can, will we be able to sprinkle our camellias with it in a solution? Will the roots, the leaves, or the flower petals be able to absorb it and impart to the camellia bloom the ability to resist cold? Has this been previously studied? Are there any reports on this subject which I have missed?

It is now the morning of December 17th in Sumter and the temperature is 19 degrees. On Dec. 10th it was 29 degrees, on the 13th—14 degrees, and on the 14th—14 degrees. There's not a bloom in the garden save the fragile little narcissus blooms—every one undamaged.

Can our horticultural chemists help us? Is this idea foolish? I should like to know!

Just For The Record

This is the first of a new regular feature to be called "Just For The Record." The purpose of this department will be to clear up misconceptions that may have existed for a long time.

For example, some varieties have been called sports when they are actually seedlings. In other cases, statements have been made that you could do this with a camellia or you couldn't do that with a camellia when the opposite was actually the case.

It is certainly not our purpose to point a finger or criticize anyone for promulgating incorrect information for we have all probably been unintentionally guilty of this. Much of this incorrect information dates back to the early history of the camellia and has been repeated by word of mouth and then written in camellia publications and catalogs until it has just been accepted as the truth. Actually much of the information was believed to be true at the time and it has only been due to recent advances in science, etc. that the truth has been brought to light.

Repetition

Other incorrect information had its beginning when someone made a statement that, "His experience led him to **believe** thus and so," or "He **thought** he had read this or that some where." The party hearing such statements would then repeat them as facts when actually the party making the statement originally was merely making a personal observation. However repitition of the statements lent them an air of authority until in time the statement was considered as a fact rather than just a statement of opinion.

There is also much mis-understanding of rules and regulations having to do with camellia shows. One point on which there appears to be some mis-understanding has to do with blooms which may be classified as being blooms grown **outside.**

There have been several shows this year where blooms have been exhibited as blooms grown **outside** where actually the conditions under which they were grown would have dis-qualified them as outside blooms.

Unfair Practice

Needless to say this is very unfair to legitimate outside growers for their blooms do not stand a chance against protected blooms. The rules are very definite on this and we quote from the American Camellia Society 1960 Rules and Regulations Governing Procedures and Judging of American Camellia Society Cooperative Camellia Shows. (As amended by the Governing Board, Nov. 11, 1960)

Under Section 2 is the following:

"(a) Blooms grown **Outside** —

blooms from plants that have been **grown in the open without any protection** other than that furnished by an unheated slat house where the slats have no covering whatever over them nor any substance between them."

We might add that container plants that are grown outside, but moved on to a porch or given other protection when the weather is bad are **not** outside blooms even though such protection was only for one night.

It is hoped that the growers who have violated these rules did so through ignorance and that after reading the above they will in the future abide by the rules and regulations. If they continue to violate the rules they are not only being unfair to other growers but to themselves as well for such practices will not only damage their reputations but could lead to personal embarrassment and to their being barred as exhibitors.

We invite our readers to send us items on which the records should be set straight and these items will be covered in future issues of the Bulletin. Let us hear from you.

NOTICE

To Members Of The

S. C. CAMELLIA SOCIETY

Unless Your 1961 Dues Are Paid, This is last issue you will receive. Fill in the form below and Mail a Check for your 1961 dues.

TODAY!

ATTENTION MEMBERS OF SOUTH CAROLINA CAMELLIA SOCIETY

1961 DUES PAYABLE NOW

(TEAR OUT AND MAIL TODAY)

In account with —

South Carolina Camellia Society, Inc.
P. O. Box 177
Lexington, S. C.

Regular Membership 1961 .....$ 3.00 (—)
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or P. O. Box.....

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Beginner's Corner

KNOW YOUR SOIL

Regular Bulletin Feature

Plants have appetites just as you and I. However being plants they can't vary their available foods to match their needs for a balanced diet.

We know that eating only one type of food regardless of how good or how essential it may be, is unhealthy for people. The same thing is true of plants.

We know that nitrogen is an essential food element for all plants, however, if nitrogen is the only food element available to a plant, the plant will not thrive for long or produce the flowers it should.

Lack Essentials

Most of our soil is lacking in certain essential elements. This lack of certain essential elements forces our plants to "over eat" the available elements while they starve for other needed nutrients. This unbalanced supply of plant nutrients is one of the major problems facing all camellia growers.

Very few if any, of our soils, in their natural condition, contain all of the food elements needed by plants. In addition to the lack of some major elements there is certainly a lack of some of the necessary minor plant foods or trace elements. On the other hand there may be an over abundance of one or more of the elements.

Unfortunately most of us wait until our camellias become ring-streaked, speckled, spotty, blotchy, or yellow before we realize something is wrong or before we try to do something about it.

Avoid Sickness

This is somewhat like "locking the barn door after the horse is stolen" for, although the plants can be brought back to health, it is much better to avoid the sickness in the first place.

There are two questions that every camellia grower should ask himself: First, do I know the fertility condition of the soil in which I am planting my camellias? Second, do I know what kind and amount of fertilizer to use on my camellias to insure a healthy growth and maximum bloom quality.

If you can answer these two questions, you are on the road to being a successful camellia grower. If you cannot answer these two questions, you need to do something about it at once.

Fortunately it is not too difficult to secure this information. There are a number of soil test kits which can be used in testing your soil, not only for the elements available, but the Ph of your soil also. These kits will probably be available at your local garden supply store.

Contact County Agent

Perhaps the simplest and best way of getting an accurate soil analysis is through your own state agricultural college. Contact your local county agent and he will be glad to assist you or furnish you with complete information about how to have these soil test made. There is no charge for this service in South Carolina and, as far as we know, none of the states charge for this service.

Make your plans to find out just what your soil has or lacks in the way of plant food and ph. This information will enable you to grow better camellias.

Seasonable Reminders

Regular Bulletin Feature

Now is the time to spray. Do it before it gets too hot.

Tea scale is probably the most prevalent and persistent pest camellia growers encounter. No matter how careful we are in examining plants to be purchased, scions to be grafted, or cuttings to be rooted, tea scale will eventually put in its appearance. Fortunately, it is not too difficult to control, and is easily recognized so that timely control measures can be taken.

Unless camellia foliage is closely examined it is likely that we will first notice the symptoms of tea scale as yellowish blotches on the upper surfaces of the leaves. Upon turning these leaves over, we find the underside covered with a white, cottony mass. Under the white, web-like mass are tiny brown scales which are actually half shells attached to the leaves and under which are the female insects. Scales are sucking insects, and it is the withdrawal of chlorophyll which produces the yellow splotching. Heavy infestation cause premature leaf-dropping and generally unhealthy-appearing plants.

Tea scale rarely appears on the upper sides of leaves except in a particularly dense area of a compact plant where there is little light and ventilation.

For the average grower the most practical control method is the use of a contact spray of an emulsified petroleum oil. There are several reliable brands on the market. Perhaps the most commonly used is Florida Volck. Used in concentrations recommended by the manufacturer, these sprays are generally effective. The addition of nicotine sulphate provides an effective spray for lace flies on azaleas.

The diluted oil can be applied by the use of a 1-3 gallon hand-pumped pressure sprayer. Pressure should be kept reasonably high and the nozzle adjusted so that the solution is emitted in a fine spray.

Care should be exercised to ensure covering of entire plant surface, particularly the underside of the foliage. The effectiveness is dependent upon a film of the spray covering all scales so that complete penetration and suffocation can ensure a complete kill.

Oil sprays should not be applied during extreme cold or hot periods (when it is likely to freeze or when the temperature is likely to exceed 90 degrees). It has been my experience that a spring application, April or May, in a concentration of 16 tablespoons of oil to 3 gallons of water, provides adequate control. In heavy infestations, a repeat spring spraying and a fall (September) application may be necessary to bring about initial control. Thereafter, a spring application should be sufficient. As a rule, oil sprays should not be applied more often than twice a year.

Replace your mulch. Winter weather has probably been hard on the mulch around your camellias. Perhaps you can now see the ground under some of your plants. If so add some mulch for the shallow roots need this protection from the summer sun.

Don't forget to disbud. Although there will be no new buds on your plants at the time you receive this Bulletin it will be time to disbud long before you receive the Fall issue of the Bulletin. Therefore we want to remind you that you should disbud all summer long as the buds develop. Some varieties set buds early in the season while other varieties do not set buds until late in the summer there fore disbudding can not be done all at one time. It is a continuing job, but one that will pay big dividends during the blooming season in the form of larger and better blooms.

Build that greenhouse. If you are going to have that greenhouse ready for your plants this fall now is the time to begin work on it. We know too many people who started theirs late in the summer or early fall and then didn't have it finished before the first freeze. This is true whether you build it yourself or have some one else build it. It takes time and its better to be early than late.

Paint and repair greenhouse. If you already have a greenhouse now is the time to do that little touch up and repair work that always needs to be done at the end of the season. Remember you can't do it after you get the plants back in the greenhouse.

Take inventory. Decide which plants aren't worth keeping. Decide what new plants you want to get this fall. Think back over the mistakes you made with your plants this season. Decide how you are going to take care of them this year.

Mix potting mixture. If you are going to repot or plant camellias this fall now is the time to get your soil mixture ready. It is better if it has been mixed for a while before used and then when the time to plant comes you won't have to mix the soil and do all the other things that you want to do. This is one camellia job that you can get out of the way during the summer.

Fertilize. Remember a little twice is better than a lot once. Don't fertilize after June since this may help start a new cycle of growth.

Last call for pruning. Although you can prune almost anytime do not prune in the late summer since this will also help start a new cycle of growth which may not have time to harden off before cold weather. Shape your plants before a lot of wasted energy goes into limbs that are growing in the wrong direction.

Questions and Answers

Regular Bulletin Feature

QUESTION. Do all camellias produce seed?

Answer. We are not in a position to state positively that some varieties do not produce seed. However it is generally known that some varieties seldom, if ever, produce and some varieties seem to produce only sterile seed.

Most varieties do produce seed and of course the single and semi-double varieties seem to pollinize the best.

QUESTION. What varieties withstand the cold weather best?

Answer. Many articles have been written on this subject. Mr. Wendell Levi of Sumter, S. C. has done much research on this subject and we have in the past published articles by him and others on this subject.

It is not possible, in this question and answer section, to give you a complete list of cold hard varieties. We would refer you to our Jan. 1959 Bulletin and our 1960 Winter Bulletin and to the 1958 American Camellia Society Yearbook for more complete information.

In general, flowers of the single and semi-double varieties seem to show the least damage from cold weather. For some reason many of the light pinks seem to be more cold hardy than the reds or whites. We would also suggest that you talk to growers in your own town and general area to see what varieties have been most cold hardy in your own locality.

Bear in mind that the location in your own yard and the amount of natural or artifical protectiion a plant has will effect its reaction to cold. For example a plant located at the side of your house or near a good wind break may perform better than a similar plant of the same variety located in a more exposed area in the same yard.

QUESTION. What is the difference between a sasanqua camellia and other camellias?

Answer. Sasangua camellias are a different species. They are more of a shrubby type than the well known japonicas and have smaller and lighter textured leaves and they bloom in the fall.

Although japonicas and sasanquas are the best nkown species there are a large number of other related species. The Reticulata is probably the next best known of the species. Other species are, Cuspidata, Fraterna, Hiemalis, Maliflora, Oleifera, Pitardii, Rusticana, Saluenensis, Vernalis and many other less well known species.

In addition there are many Hybrids which are crosses between different species. So you can see that the Sasanqua is just one member of the vast camellia family.

Do You Have Question?
Send It To Bulletin
Box 166, Rock Hill, S. C.
Let's Get It Straight

AN INVITATION TO JOIN

American Camellia Society

The American Camellia Society is a worldwide scientific, horticultural and hobby organization of more than 7000 members in 42 states and 15 foreign countries. The Society was founded as a nonprofit organization in October, 1945.

Among other benefits, membership entitles you to four issues of CAMELLIAS, the Journal of the American Camellia Society, issued in January, March, September and November. Each issue of 36 to 40 pages of interesting articles, news and photographs, has a four color reproduction of a new variety on the cover.

Each December members receive a handsome cloth bound Yearbook of some 300 pages, containing the latest information in culture, pest control, history, descriptions and new varieties. There are several full color plates of new varieties in addition to numerous photographs illustrating the articles. A roster of members is published in each Yearbook.

The American Camellia Society will welcome you to its program of mutual pleasure and interest. For your convenience an application blank is printed below.

Annual Members . . . $6.00 Sustaining Members . . . $12.00

New members will receive a free 1957 or 1958 Yearbook as long as they last.

Please Make Payment To:

AMERICAN CAMELLIA SOCIETY, P. O. Box 465, Tifton, Georgia

Attention: EXECUTIVE SECRETARY

I am enclosing ..... for a year's membership which entitles me to four issues of CAMELLIAS, the Journal of the American Camulia Society and the Yearbook. (Membership runs from January 1 through December 31.) Please enter my name and address as follows:

Name .....

Street or Box Number .....

City ..... State .....

New Camellias:

Frances Garoni—Different Pink

Most of the new varieties in past years have come from the "low country" for camellias have been grown in the deep south for well over a 100 years. Now with the camellia belt moving farther and farther north each year we are beginning to get more and more seedlings from the "up country."

The camellia that we are presenting as the new camellia in this issue is from Greenville, S. C. which is located in the Piedmont area of South Carolina.

Many of us have seedlings coming along and because they are "our seedlings" we tend to think they are perhaps a little better than they really are. However when a grower names a seedling for his wife you can pretty well rest assured that it is a better than average seedling.

Such is the case of the camellia FRANCES GARONI which Bill Garoni has named for his wife Frances.

FRANCES GARONI is a chance seedling which first bloomed when it was about 7 years old and it has now been blooming for several years. It has won the American Camellia Society Highly Commended Seedling Certificate twice.

In form it is a high semi-double but one of the good things about it is that it throws a number of different formations. It will average about 5" in size.

Although it is pink in color the shade is a different pink from the usual pink and the petals have a nice sheen to them.

It is now being propagated by Rogerson's Garden & Nursery in Florence, S. C. No release date has been announced as yet but it may be available this fall.

Vines Are Gardener's Friend

This is a camellia magazine and the primary interest of a majority of our readers, as far as growing things are concerned, is camellias.

Perhaps this is as it should be, but we should not lose sight of the fact that the beauty of our camellias as well as our homes can be enhanced by the use of other materials which are full of interest and beauty.

VINES

We want to bring to your attention the use of vines in your landscape plans.

Require Little Care

First, most of them require almost no care, pruning or fertilizer. This in itself is enough to recommend them to the average camellia grower who never has enough time to care for his camellia plants.

Use On Buildings And Walks

Evergreen vines can act as a living moulding around extremely plain doorways. They can soften and lend character to brick walls. They can cover fences and give you privacy. They can be used as ground cover on steep banks and hard to care for areas. They can cover and decorate posts and mail boxes. By use of a trellis you can guide and use them in many ways.

Varieties Available

Althouh choice of evergreen vines is confined to Carolina yellow jessamine, smilax (called Jackson vine in Tennessee), and ivy, deciduous one are legion, ranging from hybrid trumpet vines to fragile Gloriosa lilies.

As one writer has said vines are ready and willing to follow any support which is given them, they will oblige by acting as standards, as billowy masses, clipped topiary designs with wire underneath, as swags, grills or diamonds. Both evergreen and deciduous varieties are truly an adaptable group.

Whether simple or intricated vines will follow a strong lead so don't overlook vines in your landscape plans.

Rules For Appointment Of ACS Accredited Judges Revised

Many of our members are interested in becoming accredited camellia judges. Other members, although not desiring to become judges themselves, wonder what procedure is followed in appointment of accredited judges.

For your information we are furnishing the latest information on the current rules covering appointment of judges.

At the fall meeting of the Governing Board of the American Camellia Society, held in Tifton, Ga., on Nov. 11, 1960, the rules governing appointment of judges, as covered in Chapter 4 of the Rules and Regulations Governing Procedures and Judging of American Camellia Society Cooperative Camellia Shows, was repealed and revised as follows:

Section 1. Applications

Applications for appointment as an accredited ACS Judge may be had by writing to your Secretary, P. O. Box 465, Tifton, Georgia.

Section 2. Methods of Appointment

There shall be two methods of appointment as an accredited Judge.

a. Direct appointment requirements.

(1). Direct appointments of experienced camellia patrons. Those persons applying under this subsection must be experienced long time growers of camellias who have participated in camellia shows for five (5) or more years as general show chairman, chairman of judges, chairman of classification, chairman of placement, or other responsibile position or has been a successful exhibitor for such period.

(2) The application for direct appointment shall refer to three (3) accredited Judges who can certify to the competence of the applicant. It shall also specify not less than give (5) shows in which applicant has officiated or exhibited and further name one (1) or more accredited Judges who judged in each of such shows. The Secretary, upon recipt of such application, will request the references named by applicant and such other persons as the Chairman of the Exhibitions & Awards Committee may designate to report on the qualifications of the applicant. Upon receipt of such reports satisfactory to the Exhibitions & Awards Committee, the applicant may be appointed an accredited Judge.

b. Establishment of Novice Judges.

(1.) There shall be established a classification known as Novice Judges. Any member of ACS will be designated a Novice Judge upon filing request therefor with the Secretary. Upon recipt of such request the Secretary shall cause publication of applican't designation as a Novice Judge in the next issue of the Journal of ACS and in each general publication of Novice Judges for the next three (3) years.

(2.) The ACS shall urge all societies staging cooperative shows to invite a substantial number of Novice Judges to assist in judging in such shows. (NOTE: It is

the the policy of ACS to encourage the qualifying of interested persons as accredited Judges to enable all shows to be readily and conveniently available well qualified judges.)

(3.) Upon a Novice Judge having judged in five (5) or more cooperative shows at any time during said three (3) year period he may file an application with the Secretary for appointment as an accredited Judge. Such application shall list each show at which applicant had judged and the names of the accredited Judges on each judging term.

(4) Upon receipt of such application, the Secretary will request the accredited Judges and such other persons as the Chairman of the Exhibitions & Awards may designate to report on the qualifications of the applicant. Upon receipt of such reports satisfactory to the Exhibition & Awards Committee, the applicant may be appointed an accredited Judge.

c. Requirements for all applicants.

(1.) Copy Chapter 4, Section 1 (b.)
(2.) Copy Chapter 4, Section 1 (c.)
(3.) Copy Chapter 4, Section 1 (e.)
(4.) Copy Chapter 4, Section 1 (f.)
(5.) Copy Chapter 4, Section 1 (h.)
(6.) Copy Chapter 4, Section 1 (i.)

The above information should furnish you with details on appointment procedure. Membership in the American Camellia Society is, of course, a requirement for appointment as an ACS accredited Judge.

Techniques On Seed Grafting Are Published

New Techniques in Camellia Plant Breeding, "Seed Grafting" and Storage of Pollen

This little leaflet of 8 pages by John R. Sobeck will be of interest to all those who are searching for ways to bring seedlings into bloom sooner than the normal 4 to 10 years we usually have to wait under natural conditions.

The author describes what he calls "seed grafting',' which is actually grafting of seedlings when they are only about 2-3 inches high. Use of this method, plus extra lighting and fertilizer, has brought bud formation in just 1 year after planting the seed and 5 months after grafting.

These seedlings can be grafted by either the usual cleft graft or by summer or bark graft. The technique is illustrated by line drawings and photographs.

Another very interesting technique described is the storage of pollen over a long period of time. This permits the crossing of early and late bloomers, a cross that is not possible under normal conditions since the varieties do not bloom at the same time.

This work was started by the late Ralph S. Peer and is now being carried on by Mr. Sobeck and Mrs. Monique Peer. The booklet may be ordered from Mr. Sobeck, 955 East Edgeware Road, Los Angeles 26, Calif. Price $2.50.

1962 SHOW DATES

Show Chairman throughout the South are requested to send the dates for 1962 shows by Oct. 1. The Bulletin will carry a complete list in the fall and winter issues.

SLEEPER:

Dave Strother Lists Five

Regular Bulletin Feature

Many well known camellia growers have from time to time been called "Mr. Camellia." This title fits no one as well as it does Mr. Dave Strother of Fort Valley, Georgia.

Few, if any, men have the knowledge of camellias that Mr. Strother has and we know of no camellia garden anywhere that even approaches Mr. Strother's world famous Masse Lane Farm. Here the best of the old and the newest of the new grow old under loving care and ideal conditions producing beautiful blooms through out the camellia season.

With his wide experience with practically every camellia that has been grown we felt that a list of "sleepers" by Mr. Strother would be most valuable to our readers. We contacted Mr. Strother in connection with this and he has sent us the following list of sleepers:

NORWICK: This is a seedling of Mr. G. H. Wilkerson, Pensacola, Fla. and named for his son Norman Wilkerson. It is very much like **PRELUDE** in formation, but a better flower and more consistent in blooming.

CABEZA DE VACA: This is a light solid pink sport of Quartette and a semi-double flower with a sheen that is lovely. Not a large flower but most beautiful.

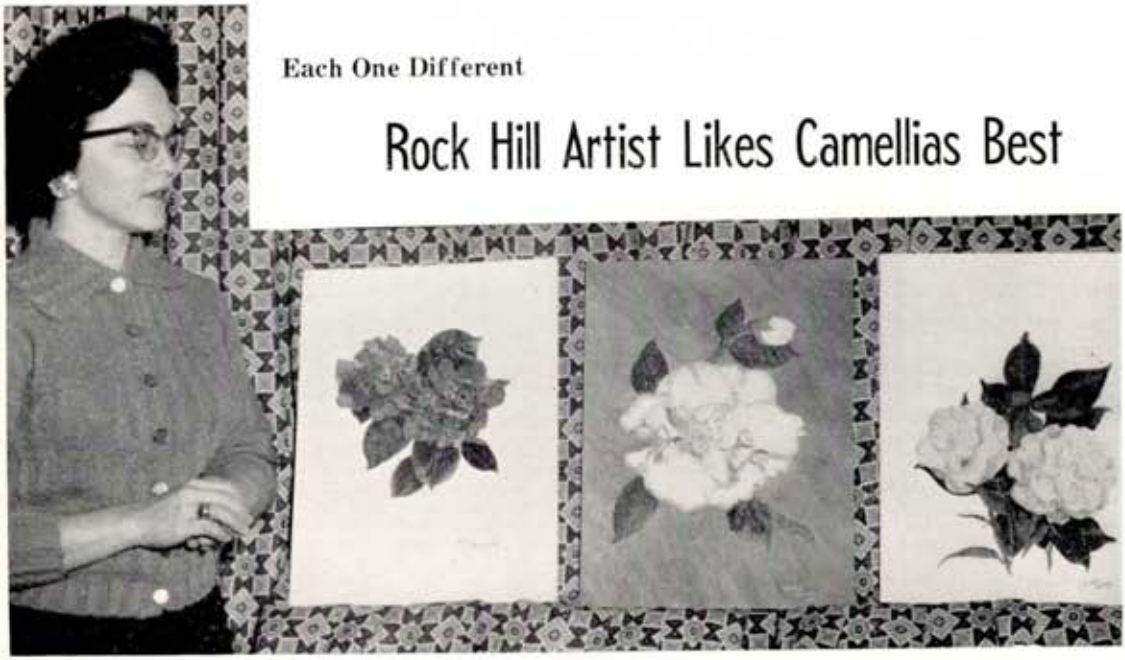
BLEICHROEDER PINK (CASA BLANCA): This is a pink sport of Baronne de Bleichroeder with a lovely sheen to the flower. It is cold hardy and will be one of the first to open after a hard freeze.

DEAR JENNY: This is a seedling of Mr. C. W. Hand, Pelham, Ga. It is one of the loveliest semi-double whites. The flower is fairly large and magnificent texture.

MARGARET RATCLIFFE: This is a blush pink semi-double fairly large flower and worth having for its cold hardiness.

Each One Different

Rock Hill Artist Likes Camellias Best



Five days each week Freddie Caveny works in the Billing Department of the Rock Hill Printing and Finishing Co., located in her hometown of Rock Hill, S. C.

In her leisure hours away from the office and on the weekends she paints as a hobby. Her favorite subject is CAMELLIAS.

The young Rock Hill matron took up painting soon after completing her formal education and about the same time she went to work in the office of the huge Rock Hill printing and finishing plant. "To me it's a wonderful way to relax," she explains.

Freddie says she started out on landscapes, flowers in general, and even tried her hand at portraits. "But when I tried camellias, that t u r n e d out to be something special.

"Camellias are colorful and challenge your imagination," she says. "Each one is different in shade and formation and they never get boring. The formation of the pedals, those things you camellia growers call 'Rabbit ears', the leaves are even distinctive in their color and shapes . . . There's never a dull moment when painting a camellia . . . . Nor is there anything quite so challenging . . . .nor rewarding when you have finished."

No, F r e d d i e doesn't dabble around in water colors because she likes oils and the "effect you get" when using oils. "It just seems a little more permanent and worthwhile when you work with oils," she explains. "I like it that way."

Freddie and her husband make their home at 1564 India Hook Road, Rock Hill, S. C., where she does all her painting in her 'spare time' and even in the wee hours when she's "working at it".

She works from the actual flower or a color photograph and sometimes a color slide. She uses a 14 by 18 inch canvas board and charges $17.50 per painting.

Root Strangulation

Not only can a camellia, or other plant for that matter kill itself it can also commit plant murder.

If one of your favorite camellias is ailing and fails to respond to normal cultural treatment it may be in the process of committing "camelliacide." This is especially true of a container plant.

Under normal conditions the roots of a plant grow away from the main underground stem, branching and spreading fan-wise through the soil. However, if a plant is pot bound or some other obstruction blocks this normal type of root growth, the roots may begin to encircle the central stem.

If this happens the root will, as it continues to grow, exert more and more pressure against the stem, retarding movement of moisture and nutrients to the plant until it may actually die.

Chokes Itself

Not only does a plant sometimes do this to itself, it sometimes does the same thing to neighboring plants. What is happening under ground is very much like what we have all observed above ground when a wisteria or other climbing plant encircles a tree or shrub, exerting increasing pressure as both continue to grow until, if the encircling plant is not removed, the tree or shrub will finally be literally choked to death.

Some symptoms of a girdling root include sparse, pale foliage, premature, leaf drop, slow or little growth, and die-back of the upper branches. There may be an area of dead bark at the ground line.

The simplest treatment consist of removing the guilty root. It may be necessary to prune the plant to adjust to the root system that is left.

Although the above described condition does not occur often, it is something to be on your guard against, especially in the case of container plants where frequently in under-potted plants the roots will follow the sides of the container and grow round and round thus increasing the chance of root strangulation.

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