

The *Camellia* Journal



'SAM ZERKOWSKY'

Originated and Propagated by Tammia Nursery, Slidell, La.

AN OFFICIAL PUBLICATION OF THE AMERICAN CAMELLIA SOCIETY
VOL. 30, NO. 3 GREENHOUSE SPECIAL PRICE \$1.50 AUGUST, 1975



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From the Desk of the Executive Secretary/Editor

You will be amazed that your Executive Secretary can actually be so short-winded. It is with a sincere and great pleasure that I introduce you to Elizabeth (Mrs. A. B.) Cooper of Nashville, Tenn. She and her husband "A.B." travel to all of the camellia shows in the Gulf Coast Camellia Society area, as well as many others. Theirs is an abiding and keen interest in camellias and in the local and re-

gional societies. Their support of the ACS is an added asset of this fine couple. We hope those of you who have not had the distinct pleasure of knowing Elizabeth and A. B. will feel that you have when you finish what we here at Headquarters believe is an outstanding issue of *The Camellia Journal*.

Our *Advertisers* have helped in a great way for us to be able to put out

From the Greenhouse of the Guest Editor

The need for a greenhouse or some such protection to grow camellias is as varied as the many climates in which camellias are grown. There are some areas, as the Pacific Coast, where the use of a greenhouse is unheard of except for the nurturing of grafts and seedlings or for hybridizing. On the other hand in some localities, such as Middle Tennessee where I live, it is virtually impossible to have any camellia bloom without adequate protection against our several spells of zero weather which even kills the plants. In between there are those areas of the Deep South and the Atlantic and Gulf Coasts where camellias bloom out-of-doors quite well until an "unusual" spell of weather comes along just before show time. In these places greenhouses have become a must for those ardent camelliaphiles if they hope to compete in the shows scheduled for each week-end during the coldest winter months.

It is the aim of this issue of "The Journal", which takes the place of a similar one in 1962 now out of print, to give an indepth view of greenhouse culture of camellias. We propose to look at greenhouse growing from the

ground up taking in every facet from type of construction up through transporting blooms to shows. To this end the Publications Committee has asked knowledgable and experienced camellia growers and consistent show winners from various sections of the country to share their know-how and secrets with all members of the American Camellia Society. The interesting articles submitted have been divided, as far as possible, under various appropriate headings so that the reader may find quickly that in which he is interested or has problems. There are also some amusing as well as informative stories on well-known greenhouse activities.

To those members of the Publications Committee who have been diligent in their task of obtaining material for this issue and to those contributors who graciously have sent articles and pictures, we are deeply indebted. We trust that the information contained herein will be of help not only to newcomers to the camellia world but to those who have known, loved and grown camellias all their lives.

Elizabeth Cooper

this expanded edition devoted to greenhouse culture. We have a large overprint which is available to you or your friends. Whether you are purchasing a greenhouse, equipment, plants, scions, seeds, fertilizers, containers, gibberellic acid, pruning equipment please patronize the reputable people who have placed an ad in the *Journal*; tell them you heard about their products from this *Journal*.

Elizabeth stand up and be recognized!



On a balmy spring day after the camellias were out of the greenhouse, A. B. and Elizabeth Cooper stand across the creek from their do-it-yourself greenhouse at their home on Granny White Pike in Nashville, Tenn. Elizabeth, chairman of ACS publications, is Guest Editor for this issue and A. B. serves as ACS Director for Tennessee. (Photo by Jack Gunter of "The Nashville Banner.")

Cover Flower

'SAM ZERKOWSKY'

This new release by Tammia Nursery is a beautiful large flower with soft pink Anemone center of pink and white petaloids mixed with golden stamens. Rows of pink petals form a skirt of beauty. It blooms mid-season; is a heavy bloomer and is a bushy plant. It is a real *Show Winner*. It won the Best Seedling Award in the 1972 Camellia Show, Slidell, Louisiana.

For a picture of this lovely new addition to "the camellia world" see the cover of this issue. The advertisement for this and other outstanding camellias from Tammia Nursery, see the ad on page 44 of this issue.

President's Message

This will be our first issue for some time which concentrates on one aspect of Camellia culture. Without seeing the format or any of the articles, I don't hesitate to say it will be a great success. With the experience and ability of the Publications Committee, chaired by Mrs. A. B. (Elizabeth) Cooper, and an array of fine members from all over the country, we are bound to have a treat in store.

The last issue to be devoted almost exclusively to Greenhouse Culture, was in July, 1962. We are still getting requests for copies of this issue, which shows only too well what great importance protection of blooms plays in the present shows. Frankly, I feel sure our membership would have been cut by thirty to forty percent if greenhouses had not been so successful. How well we know that many shows would have entirely gone out of existence without such help.

So be sure to enjoy and benefit by the many fine articles you will find enclosed.

Weatherwise, the last two years have been kind to us and many shows



have had more blooms than they expected. However, one thing keeps raising its ugly head. It seems to me petal blight is fast becoming the No. 1 Problem in Camellia Culture. It is particularly difficult for the small grower who may not have the knowledge or ability to combat its ravishes. How disappointing to bring in a fine flower and the next day find it specked and slimy. Many of us have been slow to admit we had this scourge. Let's face up to the situation, share any information we have and try to develop some sure fire way to overcome this extremely difficult enemy. You will be glad *we* did!

Reports from Brownie indicate that this will be another year showing an increase in membership. Give us just a little more help, contact that one additional person and make them happy by being a member. We feel sure no other horticulture society offers so much for so little.

OFFICIAL PUBLICATION OF THE *American Camellia Society*

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Executive Secretary—Editor

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Volume 30

Number 3

August, 1975

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Greenhouse Culture at Massee Lane

MILTON H. BROWN

In the past one and one-half years we have made some drastic changes in greenhouse culture here at Massee Lane. We talked, listened, asked questions, gave answers, agreed with some, disagreed with others. As a result, what is done at Massee Lane is a composite of what many others do. We repeat our program here in case someone wants to accept what we do, or to disagree with what we do. Fortunately, however, we have had the most successful blooming season in the T. J. Smith Memorial Greenhouse since it was constructed several years ago. It is a commercially manufactured one, 100'x30'.

We have leaned heavily on advice from, among many, Les Marbury, Dr. Walter Homeyer, Dr. W. F. Mathis, Dr. James Habel, Jr. and our own almost twenty years of greenhouse experience in the Washington, D. C. area. We also keep accurate books of what is done and when it is done.

FERTILIZING

In mid-to late-February; in mid- to late-June and again in early September we fertilize our container camellias at a rate of one tablespoon per gallon cubic area of the container with Sta-Green Nursery Special with Systemic Insecticide. (This is a 12-6-6 mixture with 1% 0, 0 -Diethyl S which is the equivalent of 20 pounds of active Di-Syston per ton. It also includes several of the minor elements that a good feeding of plants deserve.) The plants are watered the day prior to and immediately after applying the granular fertilizer. We have no camellias planted in the ground inside the greenhouse.

After the plants begin to bloom we use a mixture of two (2) teaspoons of Ortho-Gro to one gallon of water and use this rather weak solution as our watering of the plants about every two to three weeks until time to put on the Sta-Green in February.

WATERING

We feel it is necessary here to water about once a week when the plants are in the greenhouse. We have an excellent humidifying system which we have set at 80% humidity. Every night we close up the greenhouse completely—even during the hot fall and hot early spring—to develop a truly "San Francisco" climate. This greatly increased humidity has been one of the major reasons, perhaps, for our having such outstanding blooms this past winter. If you do not have humidifiers, you would, in our view, be advised to turn on your water taps in the greenhouse and let about two inches or so of water accumulate on the floor before turning off the taps and closing up the greenhouse. The only drawback to this program of very high humidity is that blooms, if left

on the bush too many days, will have a tendency to mildew about the stamens.

SOIL MIXES

Our system or program of soil mixes will be started only later this summer or early in the fall. (We were away just too darned much to get to it this spring.) We plan on using the following soil mixture at that time.

40% peat moss (watered well—and we are going to put it through our shredder.)

30% sand

30% leaf or wood's mold. (We might have to use a good top soil from the farm instead. Actually over the years I did use soil regularly.)

Into this mix—about 3 bushels—put two handfuls of finely ground dolomitic limestone and about an equal or slightly less amount of Sta-Green 38-0-0 Uramite-controlled release fertilizer. For japonicas you can use a lesser percentage of peatmoss with a bit more sand and soil or leaf mold.

We are using a "home style" electric cement mixer that is put out by Sears—there are many others also available. This will give you a much more evenly mixed soil for your containers.

SPRAYING

We use the spraying program as outlined in detail in an article by Gene R. Strother and Roy J. Ledbetter beginning on page 57 *The American Camellia Yearbook 1974 Vol. II*. However, we do our spring spraying earlier than we do on the plants growing out-of-doors. During the time the plants are in the greenhouse we watch and, if we see any scale, the particular leaves are wiped clean of the scale with a soft rag dipped into a solution of Oil-i-Cide and water (3 tablespoons of oil per

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one gallon of water). We had very bad experiences using "straight" Cygon and painting a one-inch band on the trunk of container-grown camellias. Others assure us that they have had good results doing this. Oil-i-Cide is the only oil we use.

SUMMERING THE CAMELLIAS

In the past, the policy had been to move *all* of the plants outside during the first week of May and to move them back inside the first part of October. Our backs are getting weaker. This year we have moved only *one-half* of the plants out-of-doors. The others will remain inside all of the time. Many growers find this to be completely satisfactory. Those left in the greenhouse will, of course, have to be closely watched to be certain they do not dry out. We will open the sides and the vents of the greenhouse and will continue to use the humidifiers and the fans that draw air through wet pads at the rear of the greenhouse. The plants outside are under pines and in positions where they too can be easily watered.

PRUNING AND GIBBING

Any regular article on pruning of camellias holds for out-of-door plants as well as for greenhouse plants. Prune a bit more drastically for the greenhouse, however, as space is a premium inside there. You will find yourself also "shaping" the plants when you put them back into the greenhouse in order to have space between plants and among the branches. Place some of the smaller plants under the tall ones; but again the tall ones should be well enough pruned so that sufficient light gets to the shorter ones underneath. To assist you on this, you might build a series of three steps along the sides of the greenhouse and put the plants on them—you can get more in that way. Unfortunately, we do not have the time this summer to build the steps.

As to gibbing—well, nothing can be added to the many items that have been in issues of the *Journal* and *Yearbook*. We do not "aim our gibbing" at any particular camellia

shows. We start in August and gib only a few each ten days or so. Our goal is to have camellias over the entire winter for those thousands of visitors who stop at Massee Lane on their way to or from Florida.

CAUTION

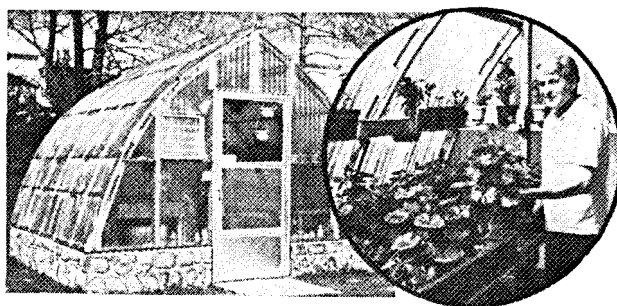
As I mentioned early on, this is a composite of greenhouse culture as we carry it out here at your Massee Lane greenhouse. It is by no means all-inclusive, as no such program is. For every greenhouse grower, I feel certain there will be differences in approach and mixtures in one or all of the categories outlined above. Indeed, who knows, maybe next year we will carry on still further innovations or changes. Whatever the program, the idea is to grow good camellia plants and outstanding camellia blooms in a good—if not the most accurate—atmosphere and surroundings. Grow and show beautiful camellias—and above all share them with your friends, shut-ins, hospital waiting rooms, counters and windows at leading stores and shopping malls.

Share your blooms and your exuberance for growing camellias with everyone whom you meet.

COMPANION PLANTS

While our Massee Lane Greenhouse is 99 44/100% camellias, we do have some other plants we enjoy during the winter months. We grow successfully *Cymbidium Orchids*, *Bird of Paradise Plants*, *Night-Blooming Cereus*, *Geraniums*, *Ardesias*, *Citrus* and *Century Plants*. This coming year we will try to get some *Bougainvilleas*. We also have a nice group of hanging baskets with *ferns* and *zebrina pendula*. The hanging baskets of *columnea* that looked so beautiful at the Wilmington Camellia Show last year just did not make the "cold" of the cool greenhouse; they need more heat than we give our camellias. People also are quite thrilled when they see the *azaleas* 'ELIZABETH AND ALBERT' that keep on bloomnig for so many weeks during late winter and early spring. In the past when we lived in Virginia we

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also had a lovely display of *daffodils*, *hyacinths* and *freezias*. It is also nice to have the lovely fragrance of a *daphne odora* in your greenhouse; they do well in the cool greenhouse with camellias. We always frowned on *gardenias* in the greenhouse as they were much too prone to devastating insects. Perhaps hanging some of those Shell Bug Strips would help

keep these away—as well as aphids—and permit that fragrance to join your camellias. One day you won't have to look for other plants for fragrance in a camellia greenhouse—you will have lovely fragrant camellias with the delightful fragrance of 'FRAGRANT PINK' but in blooms the size most of us like. Believe me, it is a lot nearer than the elusive yellow camellia!

—ACS—

Spare Time in Our Backyard

MR. AND MRS. HAROLD H. THOMAS
Wichita Falls, Texas

It was on New Year's day in 1966 when we moved into our new home. Our yard was freshly graded and badly in need of landscaping. With the exception of a dozen or more mesquite trees that were purposely left on our lot, we had to start from scratch. We enthusiastically went about our mission of landscaping the yard as quickly as possible. It was all new to us. We knew very little about how to begin. However, it was not long until we had hedges, flowers, vines and trees in their proper place.

We were visiting the nurseries quite regularly and soon we were buying many things. Camellias were among

our first loves. As a result, our garage was full of camellias in cans the first winter we were in our new home. The second winter we had even more camellias. Something had to be done, or else stop visiting the nurseries.

It was then that we started thinking about building a greenhouse in our backyard.

GREENHOUSE

We decided to ask a carpenter to build it for us, but we realized that we needed to tell him what to do and how it should be built. We spent months looking at other greenhouses, talking to people and reading various articles pertaining to the construction of greenhouses. We read articles from various agricultural colleges, books from the library and pamphlets telling what manufacturers say about their products.

Soon we determined that we wanted a greenhouse size 10' x 14' made of redwood 2" x 4"s, the best clear greenhouse fiberglass available (we did not want glass because we have so much hail in this part of the country every spring). We wanted to be sure to have ample ventilation, so we used six aluminum windows and one aluminum storm door, plus a 24 inch exhaust fan. A concrete footing about 12 inches deep was used all around the edge of the greenhouse. The redwood sills were fastened to steel posts to make sure that

one of our strong West Texas winds would cause no damage. The fiberglass goes straight down to the cement footing in order to allow light to plants sitting on the ground.

The winters here are just not severe enough to require a footing and foundation below and above the ground. We chose a 25,000 BTU Carrier overhead gas heater with a vented hood through the top. A gas heater hanging from the top takes up very little room and allows more space on the ground for plants. The greenhouse is equipped with electric lights and extra electric outlets. A gable roof was specified because it allows better circulation of air, more height and better sunlight. For the same reason, the greenhouse was built to face north and south. Wall brackets with glass shelves all around the sides were added, and hooks were placed in the rafters in order to use them for hanging baskets.

Despite the fact that a bit of sun would be eliminated we covered the east and south sides of the greenhouse with lattice work consisting of 1½ inch redwood strips. We covered only the sides that face the house just to present a more pleasing appearance in our backyard. In fact, later we found it necessary to cover the roof with Saran cloth shading in order to minimize the intensity of the mid-day sun.

Inside the greenhouse on one side is a work bench about 33 inches high, 3 feet wide and covered with quarter inch hardware cloth (or hail mesh). By using the mesh wire it is strong enough to hold many potted plants and when they are watered the water conveniently drops to the ground through the mesh.

MAINTENANCE

Our greenhouse is used strictly for protection during the winter. At times it even becomes so crowded that much sunlight is kept off some of the plants. However, when the last freeze is over we take all plants out of the greenhouse and place the cans in the yard, plant them in the ground, or

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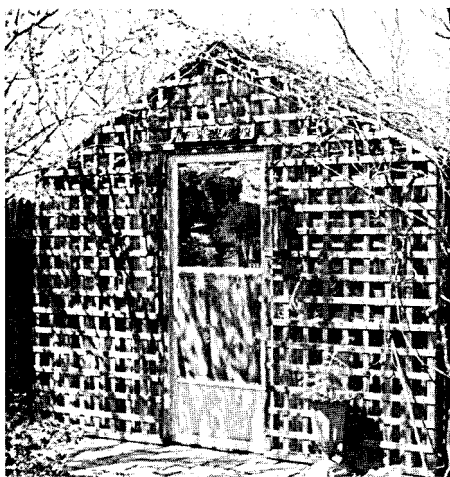
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Gerald L. Henderson

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MARY'S GREENHOUSE

else give them to our friends and neighbors.

Behind the greenhouse is an open space shaded by trees and protected by a hedge. Here our camellias (all in cans) spend the late spring, summer and early fall.

After the plants are removed from the greenhouse we scatter chlorine dust over the brick in order to get rid of the algae and we thoroughly clean the greenhouse. We spray with a general garden spray, plus spider mite spray.

All windows and the door are covered with wire screen which tends to keep out insects and bugs. Slug bait is oftentimes scattered on the ground to rid the greenhouse of slugs.

HUMIDITY

When the greenhouse was built, all the grass was dug up on the inside and about 5 inches of dirt was removed. Thereupon, a covering of plastic was placed on the ground to insure that no grass or weeds would grow inside. On top of the plastic was placed a walkway of brick and the other space in the greenhouse was covered with a 5 inch layer of pea size gravel. Periodically through the winter season the hose is turned on in the greenhouse in order to saturate the gravel and brick with enough water to provide ample humidity until watered again. Water is provided through a garden hose. Regular plant waterings also provide necessary humidity.

HEAT

A gas heater that hangs from the ceiling and, has a thermostat attached, provides the necessary heat. Most of our plants consist of camellias, azaleas, geraniums, begonias and ferns. Such plants do not require an extremely high temperature, possibly 45 or 50 degrees. Three or four flats are oftentimes used in the greenhouse in order to plant seeds. We have found it to be such an exciting adventure to raise plants from seeds. Bottom heat in the flats is provided by the use of heating cables. Naturally on warm winter days practically no gas or electricity is used because the sunshine provides ample heat during the daytime. The fuel cost during the winter months is considered negligible. Certainly the joy of having happy growing plants throughout the winter is worth the cost of the fuel. What a pleasure it is to go out to the greenhouse when snow and ice is on the ground and see how nicely your plants are doing inside a warm greenhouse.

VENTILATION

Every morning before we leave the house we first check on the weather. We listen to the radio and look in the paper, or else call an automated telephone number. If it is not freez-

ing outside at the time and the report says that the temperature is scheduled to rise during the day we make sure that two or three windows in the greenhouse are raised. At nights everything is closed just in case of a freeze. If the weather is mild we may raise a window only an inch or two. If it is a warm day we may raise all the windows to the top. We realize that fresh air is good for plants, just as it is for human beings. If it is not freezing outside we always try to provide an ample amount of fresh air.

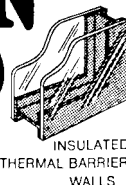
FERTILIZING

After the camellias bloom we give the plants a feeding of "Gardenia, Camellia, Azalea" food. Several times during the year we fertilize our plants with fish emulsion, and especially do we find light applications of fish emulsion to be beneficial during the blooming season. A mild solution of Ra-Pid-Gro, Plant Marvel, or such, will cause the flowers to bloom more profusely during the cold months.

WATERING

Plants will survive through freezing weather without fertilizer but they must have a sufficient amount of moisture and sunshine. Through the

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colder months it is not necessary to water every day. In most cases a good watering once a week is ample. It is best to water when the soil around the plants seems dry. A bit of common sense is a good rule to follow.

SOIL MIX

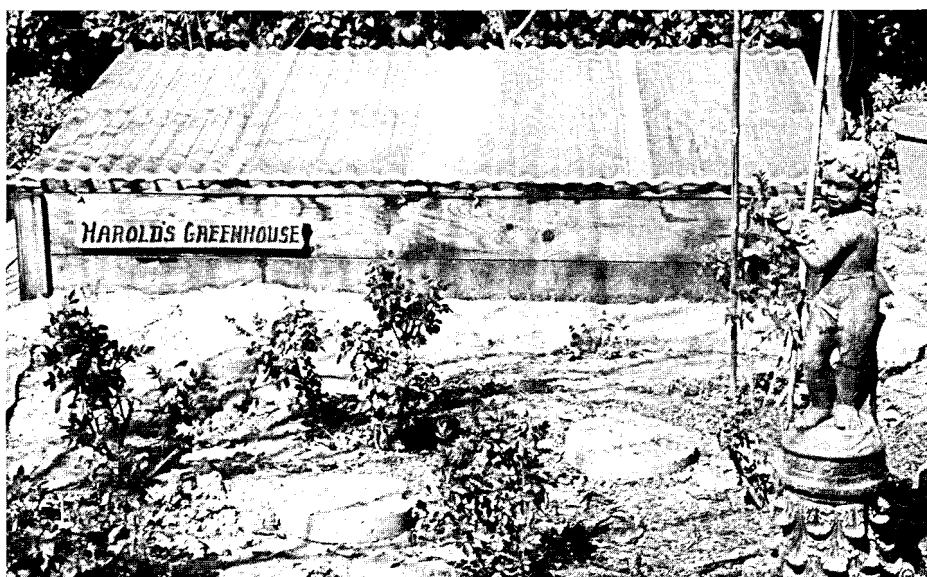
The books do not recommend any *one-and-only* soil mix. It oftentimes depends on what you are trying to do. If you want a soil mix for flats to raise plants from seeds or cuttings you can use straight vermiculite with excellent results. When lifting the flats you'll find that they are not so heavy when filled with vermiculite. However, it retains moisture so easily, care must be used not to overwater. Many people prefer a soil mixture such as equal parts of mortar sand, vermiculite and peat moss. Others like perlite and fine milled sphagnum moss. They all seem to get good results. In every case one must be sure that the soil mix is moist at all times. If one is potting a plant to be placed in the greenhouse for the winter it would be well to use a mixture of garden soil and peat moss, plus a watering containing a weak solution of superphosphate.

CANS vs. in the ground

As has already been stated, we prefer cans in the greenhouse to planting in the ground. We use the greenhouse simply for a winter protection, so when cold weather is over, and spring arrives, we take all the plants outside where they can enjoy the fresh air and sunshine. We plant all the annuals that we can handle in our yard, plus giving hundreds to our friends. Invariably, we have to dig up more space in the yard in order to make room for the large number of plants. Oftentimes, we are inclined to make the statement "Let's make our yard the prettiest on the street." And what a joy it is to shower our friends and neighbors with gifts of plants!

GIBBING

Whether to gib or not to gib depends entirely on the individual. It's easy to do and almost invariably will



HAROLD'S GREENHOUSE

bring results. If a person will remove the growth bud which is located almost adjacent to the camellia bud the results will leave a small pocket showing. This can easily be done with the fingers. With the aid of an eye dropper just one drop of giberellic acid is dropped in the pocket, and at the same time it is best to remove the majority of camellia buds from the plant in order to provide strength to the ones that are left. If one is interested only in having a few super size giant camellia blooms for a show or to win some trophies, this procedure is sure to bring results. However, our viewpoint is different. We had rather give a hundred small blooms to our friends through the winter months than to win two or three silver trophies. Until we retire and have more time, we prefer to leave the gibbing to others and keep on picking blooms in quantity and let our blooms mature just as nature prefers.

SPRAYING

We always spray all our plants just before they are placed in the greenhouse. We use Benlate or Malathion when we determine that they are necessary. During the winter season we use slug bait on the floor because we often find slugs around. Some of our friends recommend using beer in small saucer-like containers and plac-

ing them on the floor in the greenhouse. Oftentimes we have found this procedure to be effective. The slugs find the beer and die.

PRUNING

We wonder if most people are not inclined to neglect their pruning? We know that it is necessary for continued growth. We do some pruning but we doubt that we do enough. Proper pruning takes time and we must confess that we probably do not do as much as we should. A carefully pruned plant will live longer, produce more and be much healthier. Plants are likened unto human beings in so many ways. When one is twenty five pounds too heavy that person knows how to lose pounds, but how many do it!

COMPANION PLANTS

If a person would restrict the greenhouse to just his or her first love, many problems would be solved but seldom if ever is this the case. If a person's town size lot and finances would permit several greenhouses, then one's problems would not be so numerous. In our greenhouse we find ourselves taking care of every plant that meets our fancy.

In addition to camellias we especially like geraniums. In the fall of the year before winter weather arrives we take cuttings from the geraniums in our yard. This year we

have 800 or more geraniums that were started from cuttings. We'll plant as many as we can handle in our yard and then we'll give several hundred to our friends.

We have also been successful with cuttings from our oleanders. We have 30 or 35 oleander plants in gallon size containers at this time. Soon we'll be giving them away. Surely we get more blessings through giving than from receiving.

We root our geranium cuttings in vermiculite or in a mixture of vermiculite and mortar sand but our oleander cuttings are rooted in water.

We have also had a delightful experience in raising plants from seeds. We use flats, 12"x18"x4", with a heating cable in each one. We fill them with vermiculite and keep them moist until 4 little leaves appear on the small seedlings. Soon afterwards we feed the seedlings with a mild solution of Peter's fertilizer, Ra-Pid-Gro, Plant Marvel or such, and watch them gain strength before removing them to 2¼ inch peat pots.

We also like ferns: Boston, Maiden Hair, Fluffy Ruffle and others. We oftentimes raise more by removing the roots from the mother plant and placing them in other containers filled with potting soil.

We now have some Jade plant cuttings that we are raising for one of our very special friends. They in turn give us helpings of fresh garden vegetables from their backyard.

NEW HOTBEDS

Last summer we added two new hotbeds to our backyard. Each hotbed is size 4 feet by 8 feet, made of 2 inch redwood all around, 28 inches high at the back and 20 inches high in the front. Each hotbed is covered with clear fiberglass that is supported by hinges. The dirt bottoms are equipped with thermostatically controlled heating cables in order to keep bottom heat at least 74 degrees or better all through the winter. Each hotbed faces the south to allow the warmth of the sun to add comfort to the plants each day. During freez-

ing weather the tops to the hotbeds are kept closed, however, during the warm winter days the covers are propped-up to allow plenty of fresh air. These hotbeds will be used only during the winter months. It just means that we have 64 more square feet of space to raise more plants to make more people happy which in turn will probably cause us to live longer and happier lives.

CLEANING UP IN THE SPRING

Along about the latter part of April we start cleaning out our greenhouse and hotbeds. Usually our last average frost here is about April 15th, so if we wait another week or two after that date we feel quite safe, and, too, the ground beings to warm.

We start our yard planting just about the time that our tulips, hya-

cinths and daffodils are in full bloom. It's also time for our 250 or more azalea plants to bloom, as well as the large white "Snowball" plant at the side of the house.

All plants have to come out of the greenhouse at the end of the cold weather. What cannot go in the ground will stay in cans until the next winter.

The greenhouse is thoroughly sprayed and cleaned after all plants are removed.

Then we proceed to hang baskets from most of the 30 or 40 trees in our yard, trim the wax leaf ligustrum, Burford holly, dwarf youpon and cherry laurel, and hope that our efforts will cause people to cast admiring glances in the direction of our house and yard.

—ACS—

Camellia Growing in a Dallas Greenhouse

JACK GREENBERG

Dallas, Texas

We have been growing Camellias in a greenhouse in Dallas for about 14 years, yet, there hasn't been one year when we have not changed, experimented, revamped and incorporated new ideas into our culture. The only thing we haven't done is to move the plants into the open in the Spring—in spite of the fact that most of the better growers in our area do this. I'm probably too lazy or too stubborn, in any case I believe that the main idea in growing Camellias in a greenhouse, is to duplicate the best of growing conditions outside, in a controlled environment inside. If we had realized this simple theorem years ago, we could have saved plenty of time, effort and money.

To save room and also to control them better, all of our inside plants are in containers. Of course we do grow them outside also, but they are not for show purposes. There are about 5 growers in our part of the country that I figure are better than we are. They are Charlie Malone,

Jon Carvain, Bob Waters, Garvin Tate and Dave Rubin. All of these fellows grow them in the open from the Spring on, until the first frost. What I'm actually trying to do is to grow them better than these fellows, yet keep them in a greenhouse constantly. As Will Fulton (our octogenarian member) has said for the past 20 years, "I think we've finally found the key and this will be our year!"

Though I know little about greenhouse culture in other parts of the country what I have to say is predicated on our Dallas climate. A climate that is hot and dry from April through November. In an average winter, our greenhouse temperature might possibly drop below 32 F. once or twice. From May through October we'll go from a low of 90 to 115, with a low, low humidity.

During the early 1940's under Hutchins at the University of Chicago, if you learned only one thing, you learned not to generalize. Since

then, however, I've learned another thing . . . after you've learned a rule, you can break a rule. Therefore, there are certain generalities that do apply to anyone who grows Camellias in a full time or part time greenhouse, anywhere in the country. Realizing that what has been good for Charlie Malone (in Arlington, 20 miles from us) or Garvin Tate (in Rockwall, 15 miles the other way) does not necessarily hold true for us; we have reached the following conclusions after considering the innumerable mistakes we've made over the years.

MAKE YOUR GREENHOUSE LARGE

In verity, as everyone says, MAKE IT AS LARGE AS YOU POSSIBLY CAN. It's never large enough. Ours is a rectangle 50' x 17', and about 16' high.

AIR CIRCULATION

In our opinion, probably the most underated, but most important factor in a greenhouse culture is "Air Circulation." We have two 36" exhaust fans at one end of our house and three 12" fans along the sides, sucking air through and creating air turbulence.

HUMIDITY

For years, we had a recirculating water system running over aspen fans at one end of our greenhouse. Through the air tight interior, we pulled the moist air by the exhaust fans at the other end. We discovered that we do not need so much humidity in the air. In fact it took us years to find out that, in spite of good drainage in our cans, our plants did not dry out often enough. We had so much humidity that even in 115 summer heat and in full sun we only had to water once a week, at the most. Sounds great, huh! Well, not so. We fertilize often, and by often I mean in some form once a week. With the high humidity we found that the fertilizer did not run through the cans and that the salt build up caused burning and eventual dying. Today, we have replaced the aspen pads with plain old screening and we pull in any kind of air—45 degrees—115 degrees, forcing us to water every three days. By watering, I am not referring to overhead watering, I am referring to deep watering. As far as we are concerned, if we want more humidity, we'll douse the plants in late afternoon with a hose. All of which brings me to another subject—overhead misting. When we built our greenhouse we wasted a lot of money installing an overhead mist system. That might be okay for other plants, but the only other plants we have in the house are about 50 Aloe Vera and 1 Bird of Paradise, which seem to be very compatible with our camellia culture. The first year that we used our overhead system we had it on a timer to go on a few minutes every hour. With the hot Texas sun and the high salt content of our water, by Fall we were attempting to clean the caked salts from each one of the leaves with alcohol—brother was that a job! Save your money and your time, an overhead mist system is not necessary.

SPRAYING FOR PESTS

Because our plants are enclosed year round, we spray or use an in-

secticide twice a year at the most. Anyway it's not important enough to talk about, except any new plant that we bring in, understock or otherwise, we not only spray, but we clean each leaf with alcohol. It does take time, but in the long run it saves time and effort. Anyway it gives us the time to prune, clean up, Tree Cote and talk to every single plant. By the time they're permanently installed in their new home, we know one another thoroughly.

GROWING IN CANS

We have a 20 gal. plastic can, constantly filled with our potting mixture. We put nothing in our home without repotting in this mixture—unless the plant is in an excellent mixture, as it is. We repot 12 months of the year and we've never lost a plant through repotting. We do try not to disturb the basic root structure when we move a plant into a new suit, unless the soil surrounding the roots is really horrible. Our potting mixture consists of 3 shovels of organic weed free loam, 3 shovels of sand and 1 shovel of pine bark (indigenous to Texas). For the 20 gal. of the above, we mix 1 cup Muriate of Potash, 2 cups of Dolomite of Limestone, 2 cups of Superphosphate, ½ cup of trace minerals. We have found that in spite of the fact that Dallas water is very alkaline and that our soil is punk, the use of the limestone is still necessary. Too often, we have achieved too low a PH, rather than too high a PH.

LIGHT AND VISSITUDES

I doubt if on earth there will ever be a totally 100% perfect spot for growing. In every yard, or in every greenhouse there are shadier areas; lighter areas; draftier areas; more humid spots. The idea is to know what is where; and to place the variety in the location where it will do best. Our greenhouse is in 90% light (shaded only by the clear plastic roof.) We have pruned all trees that formerly shaded it and oddly enough, to our knowledge, we have never

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burned a plant because of too much sun. The front of our house (50 ft.) consists of a porch with two large sliding glass doors backed by screens. On either side of the porch are 4 double hung glass screened windows, about 3 feet above the foundation. The back of the house (50 ft.) facing West, is of solid redwood with 10 small rectangular windows, 3 of which contain exhaust fans. As I said before, one end is all screened and the other end contains a door with a 3 ft. exhaust fan in it and cabinets and counter and sink, with another 3 ft. exhaust fan behind them. There are shelves around the perimeter of the house. The entire interior of the house is lined with white plastic sheeting.

CONCLUSIONS

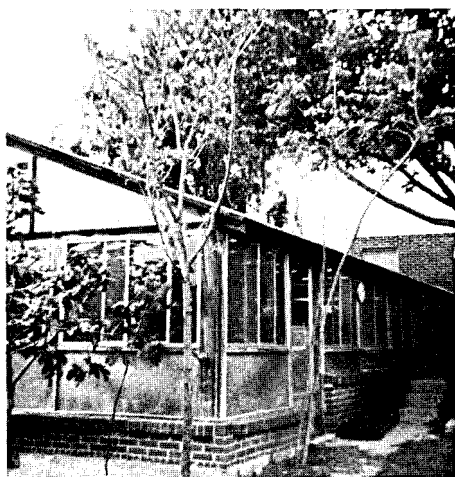
Two years ago I recall sitting at the Dallas Camellia Show with Charlie Malone, answering questions

and soliciting new members for the DCS and the ACS. Charlie won many more prizes than I did that year (and since then, also), and I said to him, "Okay, buddy, you wait until next year." He said to me, "Jack, you're not going to beat me next year either." "Why not," I said? "Because of your water, your light, and your soil. In every case, I've got you beat before you start." He did too! But, today we use a deionizer for our water. We have crystal clear plastic so we get plenty of sunlight. We use loam from just a few blocks from where Charlie lives, in Arlington, Texas. This is loam that he helped me shovel and haul away (now if that isn't true friendship, I don't know what is). Last year I did better. This year I almost beat him in many shows, but NOW, I can really say to my good friend, "Damn it Charlie, just you wait till this Fall!"

—ACS—

Another Greenhouse in Texas

GARVIN TATE
Rockwall, Tex.



Our greenhouse here in Rockwall is the third one we have had being preceded by one of redwood and polyethylene in Tyler and one of redwood and fiberglass in Dallas. Both of these were constructed by us and worked very well.

During 1969 we had a new home built in Rockwall overlooking Lake Ray Hubbard. Being well hooked by

now on camellias, a larger and better greenhouse was thought to be a must. Plans were therefore made for it to be built close to, but not attached to the house, and for it to be built by the same workmen and as the house was being built.

CONSTRUCTION

An 18' x 40' concrete chain wall was poured in such a manner as to have the floor on the upper end approximately 4' below ground level. This was necessary due to the sloping nature of the lot and also was thought to offer advantages in summer cooling and winter heating. This gave plenty of room for more than one level of plants as it is over 10' tall allowing room for shelves all around which are adequate for even tall plants.

All of the framing is of redwood with brick to match the house around

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the lower portion, stepped down to fit the lot. Flat fiberglass was used on the sides to cover it up to a horizontal level and then sliding aluminum windows were put around the entire house except for the aluminum storm door. Flat fiberglass was used to cover the gable ends and corrugated fiberglass was used on the roof. All of the construction is of a very permanent nature and no maintenance has been required or is anticipated for many years.

A sprinkler system, gas and electricity were installed. Heating is by thermostatically controlled space heaters. Air circulation and humidity are furnished by two evaporative coolers as are used in homes. Good humidity is aided by the gravel floor, with porous concrete blocks for a walk, which is kept wet at all times. When the humidity gets low, during severe dry cold spells, water boiling on a hot plate has helped. Winter temperature is allowed to drop to 35 degrees greatly extending the blooming season.

CULTURAL PRACTICES

All plants are grown in containers, preferably metal or plastic and are kept inside all year. Camellias are a wonderful hobby but we think they

can be more fun if their culture is not made a hard chore. They seem to do very well without a lot of work.

Soil Mix—Our planting mixture is made up of three parts pine bark and one part perlite with a small amount of sharp sand in the small containers for weight.

Fertilizing—Equal parts of cottonseed meal and camellia and azalea fertilizer are used sparingly at approximately three month intervals. Time of application of these slow-acting fertilizers is not thought to be critical but over fertilization should be avoided. Even a small excess of nitrogen often will result in a poor bud set if it does not kill the plant.

Pruning—Plants must be pruned rather severely and kept small if large numbers are to be kept in a greenhouse. Pruning any time of the year seems to work well but if root pruning is done in reducing the size of a plant, it should be done only in the cool months. Special care should be taken to prune out all small inside branches and all low-hanging branches to prevent scale.

Spraying—Oil-I-Cide is sprayed at least once in the spring and once in the fall. This controls scale insects which seem to be the only pests seriously bothering camellias here. Teraclor is sprayed over everything weekly for three weeks just before blooming begins to guard against petal blight. This, however, has not been a problem. All old flowers also are picked up for the same reason.

Companion Plants—Plants other than camellias kept in the greenhouse are restricted to those that can stand temperatures in the low 30's. Bougainvillea will do this and bloom beautifully much of the year. A real plus for having a greenhouse is that flower and vegetable plants can be started with very little trouble.

Gibbing—The use of gibberellic acid is thought to increase greatly the pleasure of a camellia hobby. Buds are treated early enough to speed up blooming by about two months. This gives blooms for about seven months and what other flower will do that? No damage to bushes has been noted

due to this treatment which is done once weekly for about four weeks.

Disbudding—This is very important for good quality blooms. This is begun as soon as extra buds can be seen and all but one terminal bud is taken off each limb.

Watering—Special care must be exercised in watering container plants in this area as the water contains large amounts of dissolved salts. A build-up of these salts in the containers can be lessened by heavy watering each time required and letting the plants get fairly dry between waterings. The leaves of the plants are wet at least once a day during hot months.

Propagation—The propagation of camellias can afford as much enjoyment as the blooms. Most of our plants were grafted by us and this gives additional pleasure to the hobby. Many good friends are made by swapping scions for grafting. This also is a good way to acquire plants from the best specimen plants of a variety and it is a real way to cut down on the cost of raising camellias.

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Greenhouse Pruning

W. F. WILSON, JR.
Hammond, La.

Pruning camellia plants in the greenhouse is, without any doubt, one of the most important of all practices and one of the most difficult to outline in detail for anyone to follow. It is very difficult to tell a grower how he should handle his plants, and sometimes even harder to do it yourself. As an example, when I was dis-budding early last fall, I told a helper that the 'MARK ALAN VAR.' plant should have only about ten buds, properly spaced, remaining. It produced a number of excellent blooms, yet recently the helper reminded me of the example I had used as a guide for him, as the 'MARK ALAN VAR.' had fourteen open flowers on it at that time, along with some unopened buds.

In the first place, there are various

systems or methods practiced by good growers, with each of them being highly successful using their system. Basically, we expect to keep our plants in bounds, from the standpoint of size and shape, and to keep them growing vigorously. Certainly it is always proper to cut out any diseased and weak portions of the plants. Our better flowers are largely produced by the strong, vigorous growth.

In order to promote this type of growth, the removal of some of the old hard, rough portions of the plant and cutting back the large branches of a plant results in strong, new growth. Such a system of renewal should be practiced from year to year in order to keep the plant in a vigorous, healthy state of growth. The degree or severity of this type of prun-

ing will vary with the grower and the type of plant he expects to maintain.

Certainly even the young plants require pruning to shape in the desired type of plant for a particular grower. As a general rule, some lower branches are removed, and the remaining ones thinned and spaced. The conformation desired will dictate the manner and degree of the pruning.

Probably the single detail of greatest value in pruning is the removal of growth buds just as the plant begins to grow in the spring. Many terminals have multiple growth buds—two, and in many cases, three. Breaking out the extra buds at this early stage will reduce the number of growing points and promote stronger growth of the remaining growth bud. This practice can also be used to eliminate growth buds on the inside of the plants and to thin or space the buds along vigorous branches.

The practices mentioned above will certainly reduce the pruning that will have to be done later, and reduces to a very great degree the subsequent disbudding, which is a modification of pruning and, in the final analysis, one of the practices essential in order to produce fine specimen blooms.

Greenhouse Culture in North Central Texas

CHARLES B. MALONE, JR.
Arlington, Texas

DESCRIPTION OF GREENHOUSE

My greenhouse is 12 feet by 24 feet, with a clear fiber glass roof and removable side panels covered with 4 mil plastic. It is built against the north side of my home, with three exposed walls and one 24 ft. wall being the brick wall of my home. The ceiling is from 8 to 10 feet tall. The wood construction is cedar, which has been sealed and varnished. The roof rafters span 10 feet and are 2"x3"s spaced on two foot centers. The clear fiber glass roof, the 20-year warranty type, is installed with cut ridges and corrugated supports, with butyl rubber at all joints, held with aluminum nails with rubber grommets. Holes were drilled prior to driving the nails. I have installed gutters made of the 4 mil plastic under the longitudinal

supports to catch drips. The greenhouse is set on a 6-inch wide concrete foundation with 3 ft. deep piers every 6 feet.

For heat, I use a standard open-flame gas heater, to which I installed a pilot and hooked up a thermostat and solenoid valve. The 35,000 BTU heater has been adequate for the 288 sq. ft. house.

I built the greenhouse myself in the fall of 1969, at a cost of less than \$400 for materials. I do not know what the price would be today, but I would estimate that it would not be more than doubled.

PLANT CULTURE

All the plants in my greenhouse are grown in containers. January is the month I start the camellia year. That is the month that the fruits of the

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past year are being gathered in the form of show blooms and it is the time that the grafting program is begun for plants I expect to bloom in two years.

To produce show blooms, the temperature in the greenhouse is controlled at 42 degrees F. I watch the plants very carefully, as large blooms require a lot of moisture, so the plants are watered more than normal during this blooming period. To prevent leaves from damaging and cutting the petals of the blooms as they open, I use wood clip-type clothespins to pin the leaves back away from the buds.

Grafts are made in the normal manner, covered with a gallon glass jug. I covered the jugs with paper sacks, until I discovered that the grafts were not getting enough light. So now I set the glass covered grafts under the larger plants and have much more success.

The February schedule is about the same as in January, except it is sometimes necessary to open the greenhouse for ventilation on days that the temperature reaches 70 degrees.

The blooms are usually gone by March, and that is the time I begin to repot plants or step up container size on plants that dried out too fast

during the past summer. For plants that did not perform to my expectation, I examine the roots for possible trouble and bare root if necessary. Since my greenhouse is small, I must keep a very selected group of plants under protection for show blooms, so in March I decide which plants to eliminate to make room for a few new varieties. The plants are set aside to use for grafting or they are planted in the yard. I begin to remove the greenhouse panels and move more plants outside as the new growth hardens off. When I repot the plants and set them outside, I prune to remove any stubs that have been left when cutting blooms, remove any weak growth or any new growth that is in the wrong places.

By April, all the plants are in their favorite places out under the oak trees; some in more sun than others, according to what I have found is best for each variety. This leaves only the grafts in the greenhouse and these are placed next to the house wall out of any direct sun. As new growth begins on the grafts, the glass jars are set up on thin blocks of wood to let in a little air. I watch my grafts very closely and spray them with Benlate and Captan at any indication of fungus.

When the container-grown plants are first moved out into the yard, it is necessary to wet the foliage morning and afternoon. As the new growth hardens, sprinkling only in the late afternoon is sufficient. The lush new growth and the dry winds of Texas will dry plants very fast. Usually watering the plants every 3 to 7 days (depending on the weather and humidity) is all that is necessary.

The fertilizer that I use is a mixture of Dixie Pixie, Sea Weed with added cottonseed meal, in a 2-1-1 mixture. Very small amounts are applied every month that the plants are outside. After I move the plants inside, I use Rapid Gro as a liquid food. The soil mixture and the amount of water used determine the amount of fertilizer needed. Each grower must decide the amount of fertilizer to use

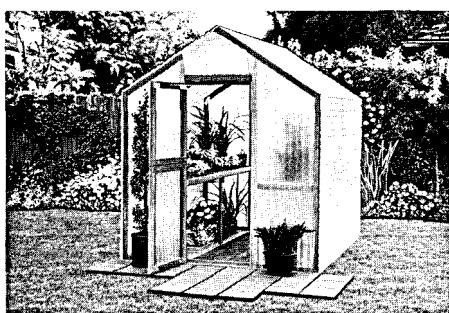
for his growing conditions. Dolomited limestone is applied in the fall and spring if the PH reading of my soil mixture indicates the need.

For soil mixture, I use three measures of my backyard sand, which is heavy with oak leaf mold, to one measure of fine pine bark. Place coarse pine bark in the bottom of the plant container when repotting. I find it best to mix the potting soil about six months before it is to be used, to be sure the pine bark is aged.

By June or July, the disbudding program is in full swing and I continue to watch for buds that need to come off every time the plants are watered or fertilized. Plants are kept clear of scale, aphids, spiders, leaf rollers, etc. with an alternate monthly spraying of Cygon and Malathion. I add foliar feed to any spray that is applied. By midsummer, the grafts have hardened off, have been staked, permanent metal tags attached, and the containers are moved into the yard, ready for the second spurt of growth. New plants, which are the previous year's grafts, are watched very closely and any new growth headed in the wrong direction is removed. I usually remove the weakest of double grafts, since I prefer single-stem plants. Sometimes I let both stems bloom before I make a choice.

By the first of September, I plan my greenhouse load, heavily gib the plants that are to grow in the yard, and try a few buds on the larger greenhouse plants. This will get early blooms by October first, and perhaps a few for the Texas Camellia Society meeting and show the first week of November.

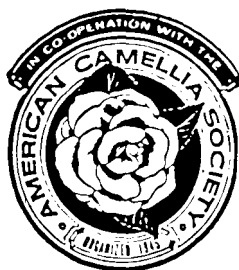
In this area, it is advisable to get the greenhouse loaded and ready to close between the first and fifteenth of November. Before moving the plants inside, I set each plant up on a workstand, wash the container, do any final disbudding, prune any bad limbs, then thoroughly spray with Cygon to get all insects. The greenhouse is cleaned, the walls and ceiling sprayed, the floor is thoroughly



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In response to numerous requests for ACS to standardize Camellia Show entry cards and make them available at a reasonable price the card illustrated here is suggested. This has been designed incorporating suggestions and requirements submitted by a number of show committees. Some may not care to use the size classification or the 4th or Special Award, but all cards will be printed with these items.

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treated with insecticide and spread with slug bait. Due to limited space, the plants are placed very close together and it is necessary sometimes to tie up long limbs. By alternating tall and short plants, space is better utilized. The young, unbudded grafts are set on shelves or in corners, so as not to take up valuable blooming space.

In November, I mark the calendar for the shows I plan to attend and start a gib program which continues until the first of the year. My plants are no better than any other Camellia grower's. We all seem to share the same problem—the best blooms are always past their prime at show time, or they open the day after a show.

Some growers in this area plant in

the ground under cover, others leave the plants in the closed greenhouse all summer, but I prefer to have the plants outside under the trees with the wind and the rain in the early spring, summer, and early fall. In the next few years, I plan to build a larger greenhouse, with a roof that can be removed in the summer, as I believe that I can cover the roof with less effort than it takes to move all those heavy plants.

I find that the 4 mil plastic can be used for at least two years, sometimes three, if it is removed during the summer and stored in a dark area. I have not tried any of the new sun-resistant grade of plastic because it has not been stocked at the place where I purchase supplies.

—ACS—

A Greenhouse in Alabama?

RALPH B. DAVIDSON

Birmingham, Ala.

It is my belief that anyone who is interested and wants a greenhouse can have it. It doesn't have to be expensive. I suggest that a person start with a small inexpensive building. After growing a few plants for several years you can better decide on how big a scale you want to go in the culture of camellias.

I have three greenhouses totaling 2,000 square feet. The first one that I built is 11 feet by 32 feet. It was even smaller at first. I built it by

myself with no labor cost and I have no talent in building. It has a concrete foundation with two layers of concrete blocks. The two long sides are made with 6½ foot by 10½ foot steel windows and glass panes that were purchased from Progressive Farmer for \$15.00 each. They had taken these out when they did some remodeling. There are three of these windows on each side and they are set in 4 x 4 redwood. At the back I used clear flat fiberglass fastened to redwood framing with two metal windows purchased from a manufacturer. The front has a wooden door that was purchased used and on each side of the door are two more small metal winds like at the back. All of these windows including the big ones on the side can be opened for ventilation. The roof is A type of 2 x 4 redwood set 24 inches apart and covered with corrugated clear fiberglass. It has never had any leaks. After purchasing a gas heater and getting an electrician to do the wiring I had a total cost of about \$800.00. This house

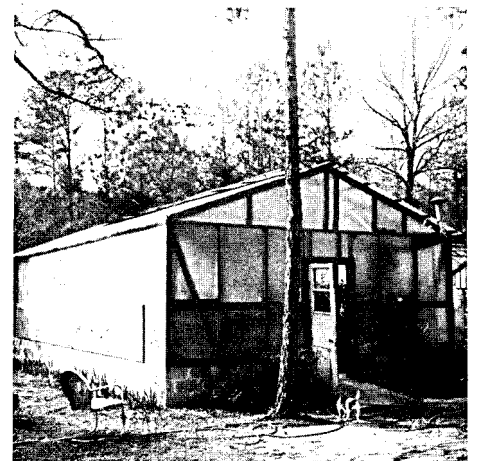
was built about twelve or fourteen years ago.

My second greenhouse is 20 feet by 40 feet and is built of 2 x 4 redwood framing covered with clear flat fiber glass. It has a concrete and concrete block foundation. There are four layers of blocks. This one also has an A type roof with 2 x 4 framing 24 inches apart. It is covered with clear corrugated fiberglass. I bought from National Greenhouse Company openers for a roof vent on one side of the roof and also each side of the building. They open with wheels. In this greenhouse I have a misting system operated automatically with a humidistat and a solenoid valve. For part of the work on this house I hired a man to help on an hourly basis. The cost including two heaters and the wiring was about \$2000.00. At first I had one heater but found it would not do the job when the weather got to near zero one winter. This house is about eight or nine years old.

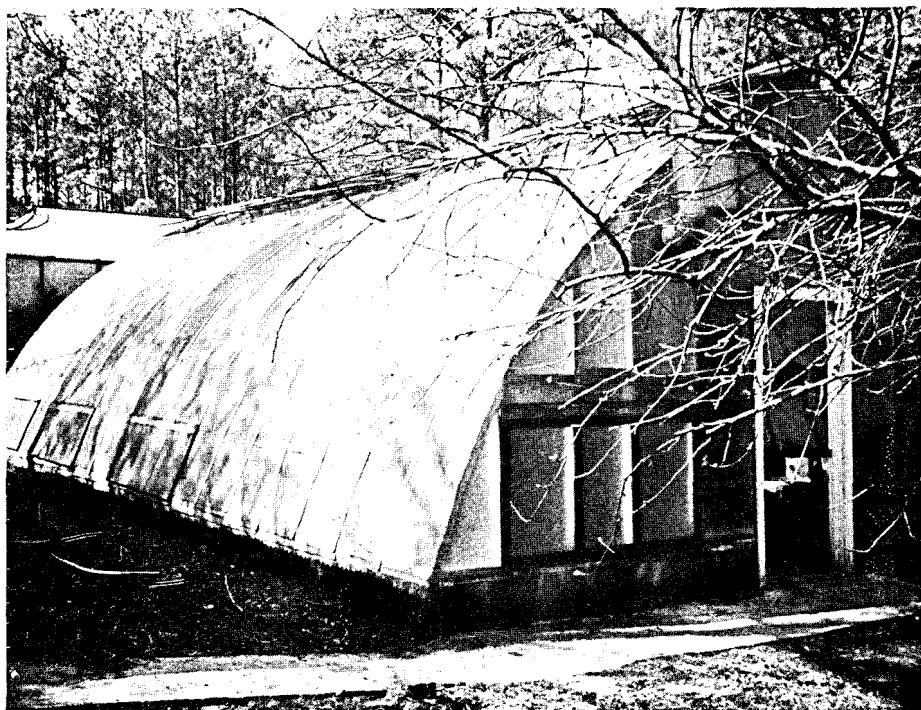
The third house erected about three years ago is a gothic arch type structure. One day I saw a contractor grading for a new shopping center. There was an old orchid nursery which was in the construction area. I asked the contractor what he would take for one of the greenhouses and he told me I could have it if I could dismantle it quickly. The one I selected was 22 feet by 65 feet. I could not use but 40 feet of it in the space I had for it so I gave the rest to a friend who helped to take down the building and clean up the fiberglass.



Greenhouse #1



Greenhouse #2



Greenhouse #3

I put down a concrete foundation and two layers of concrete block and then hired a man for two days to help put up the framing. The rest of the construction I did alone. The building is 2 x 2 laminated curved redwood ribs placed 24 inches apart. There is a vent on one side at the top which is opened by a pulley and chain. Also I have home made windows at each end of the building which I made of redwood and fiberglass. These have hinges and can be propped open with sticks when a lot of ventilation is needed. I have a large gas heater that I bought wholesale. My son and son-in-law helped me lift the heater into place. I put in the water and gas myself and a friend who is retired from Alabama Power Company helped me put in the wiring. The cost of this building, which I think is the best of my three, was about \$650.00.

Now that the greenhouse construction has been covered let us get to the culture or growing of camellias.

My thermostat in the two large houses is set at about 40 degrees. The small house in which I grow seedlings, ferns, begonias, sultanas and in spring tomato and pepper plants is kept about 55 degrees. Last year I went over board on seedlings with 2,000

of them. They could not all be kept in the small house so they overflow into the other two houses.

After the camellia shows are over I start my pruning, although some is done any time of the year. The ends of the branches of gibbed flowers are cut back to good growth buds. Low branches are cut off and also small weak ones. Any branches in the center of the plant that don't have enough room or light to produce good flowers are removed. Tree-Cote is used to cover the wounds of any large limbs that are cut.

All during the blooming season I try to keep fallen blooms picked up and burned or hauled off by the trash man. This is to prevent flower petal blight, the dreaded camellia disease.

For some years I have followed a practice of fertilizing lightly once a month. For two years I used nurserymen special from Sears which is 12-6-6 with the systemic in it. To this I added equal parts of cottonseed meal to help avoid over fertilization. In December of 1974 and January of 1975 I changed and used a 45% nitrogen urea. I added cottonseed meal and trace elements but I burned my plants. I lost about 10 plants and most of the rest produced very poor flow-

ers. As a result I only won six trophies at the shows this year whereas I usually win twenty to thirty. Needless to say I will go back to my old program.

About April 10th, after danger of cold is over in the Birmingham area my plants are hauled by hand truck outside under the pine trees. After this job is finished I apply oil spray to the plants. This is to control tea scale. All areas of the plant are covered, especially the under side of the leaves. This should be done when the temperature is below 85 degrees.

After the plants are moved outside, the greenhouse is cleaned up thoroughly, being careful to get all flowers and leaves. During the summer I make any repairs or painting that is needed at the greenhouses.

The plants are carefully observed to watch for any die back. Any discovered is cut back to good wood and the wood painted with Tree-Cote. Aphis are controlled with Isotox or Malathion.

During the summer it is usually necessary to water about once a week; more often on some plants that may need changing to larger cans. The plants like a misting from the hose in late afternoon during hot dry periods.

HELP! WANTED HELP!

*Please Help us to Find
'DUCHESS DE CAZE PINK'*

"Bayou Bend", the American Decorative Arts Branch of the Museum of Fine Arts, Houston, Texas and the former home of Miss Ima Hogg is in great need of several plants of this fine old camellia. The side boundaries of the beautiful East Garden are formed by these camellias, planted in 1930. Time, water leaks, etc. have taken their toll.

Please let us know of any available large, but movable plants. Contact Mrs. John D. Marr, 803 Old Lake Road, Houston, Texas 77027.

About September 15th I start putting the plants inside the greenhouses. The plants that need transplanting are put into larger containers at this time. My soil mix is about equal parts of soil, sand and peat moss. The soil is home made with ground oak leaves mixed with good top soil and aged from one to two years. During the aging period it is turned every few weeks. To each large wheelbarrow of mixture I add two quarts of cottonseed meal and one quart of lime. Sometimes I add lime to my fertilizer at other times of the year if tests indicate it is needed. The PH should be about 5.5.

Disbudding is started while the plants are out in the yard as soon as the buds begin to form and is con-

tinued after they go into the greenhouses. My big problem is to make myself disbud enough. Every flower I have had to win best in show has been from a plant that had very few buds regardless of the size of the plant.

Although I start gibbing my outside in-ground plants in September I do not start treating buds in the greenhouse until about Thanksgiving. My first show is usually the first week in January. After beginning the gib program I treat one or two buds on a plant each week until about three weeks before the last show.

After the shows are over I let the bees have some fun. Maybe someday they will cause me to have a good seedling.

—ACS—

The Hose & I

CLYDE X. COPELAND

When a horrible crime is committed we often hear people remark that the person guilty of such a deed must be the meanest man in the world. I will readily admit that I am not at all qualified to determine which of the many senseless crimes a man could commit that would actually justify such a designation. However, I am by years of experience and frustration expertly qualified to declare that the Gremlin that has taken up his abode in the garden hose in my greenhouse is by far the meanest and most despicable spirit that has ever plagued a human being.

All of the plants in the greenhouse are in containers and this creates a happy hunting ground for my little

adversary. I am just not stupid enough to think that a simple inanimate object of plastic and rubber could cause all of the destruction, problems, and impossible feats that are the nearly routine with my mortal enemy, the garden hose.

One can recall that many times, when in a perfectly good humor, the day has been completely ruined by the antics of this little elf. While pulling the hose down a perfectly straight path the gremlin would in some way contrive to cause this innocent hose to loop and jump into a container and knock off one or two limbs. On such occasions it is always one of the best varieties, never one of Dorothy's 'MAGNOLIAEFORAS' or 'PINK PERFEC-

TIONS'. Then again he would cause a kink in the line to cut off the water pressure and as I unravel the kink this monster beats me to the nozzle and I get a good drenching.

This devil trained spirit seems to take a special delight in causing trouble when I have to turn a corner in the greenhouse while watering the plants during blooming season. He will invariably manage to turn the corner plant over and ruin any blooms on it and the surrounding plants. On such occasions I am sorely tempted to get the axe and cut the hose into a thousand pieces, in hopes that this will somehow persuade the little fellow to leave my premises forever.

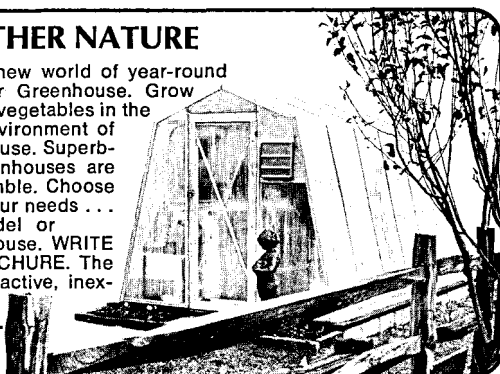
Now and then I win a battle with this hateful gnome, but the belief is deep seated that I will eventually lose the war. A major confrontation took place a few weeks ago and I came out a very poor second best. It so happens that nearly all of my hybrids grow very tall and with only a few limbs. Two years ago a 'HOWARD ASPER' was grafted on a 'SARAH FROST' and the result was the most beautiful compact hybrid reticulata that I have ever seen. It was our pride and joy, and the envy of many camellia friends.

A few weeks ago our delightful little five year old granddaughter was walking through the greenhouse with Dorothy. For no apparent reason she fell over backwards and sat down right in the middle of that Howard Asper. My pride and joy had vanished in an instant. When I went to survey the damage I noticed a coil of garden hose about a foot from the container. As I dried my tears and walked away I distinctly heard a voice behind me say "Sucker." Of coarse, no one was there. I took one last look at the ruined plant and suddenly the nozzle of that hose, for a fleeting instant, became an impish face with a smile of mock derision.

Should you miss the Copelands at the shows this winter you will know that Clyde has finally flipped and is now a resident of the State Mental Institution.

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Camellias, A Most Gratifying Hobby

JOE BRINKEROFF, JR.

Memphis, Tenn.

The camellia bloom is something to be admired. When I see one of those perfect blooms whether it be white, pink, red, or variegated, I have a feeling of being privileged to witness one of the finest fulfillments of nature's beauty. After several years of being urged by two of my best friends—Emmett Lee of Farmerville, La., and John Pierce of Memphis, I decided to purchase a couple of camellia plants. This was about 18 years ago and the two plants were 'WHITE EMPRESS' and 'HERME'. The plants were placed in a store room during the winter months. No windows, no heat, but constant watching. I would set the plants out in the carport during the daylight hours when the temperature was above freezing. When the first bud opened I knew the "camellia bug" had bitten me and that a greenhouse was necessary.

My first greenhouse was a small lean-to 6 x 12 feet. I purchased more plants and when these began to grow, I added more plants. These, too, began to grow and I suddenly found that I couldn't get into the house myself. So a larger greenhouse was built. This one was a lath house 12 x 24 feet. With a large house I purchased more plants and these grew and adding more plants each year I found that my "big" greenhouse was full. The maintenance of the lath house was simple except for the task of putting new plastic on the roof each fall. I thought each October I would fall through the lath roof, but my guardian angel watched over me and no accident occurred.

Eight years ago I decided if I was going to continue to grow camellias I wanted a camellia house that I would be proud of and easy to maintain. I designed a greenhouse which would be a part of my home. This

greenhouse is octagon shape, contains approximately 900 sq. feet, and has a permanent roof of plexiglass. There is an entrance down steps from the dining room which affords great pleasure to be able to enter the greenhouse during bad weather and also to be able to see the blooms while dining. The windows are removable and also will slide open so that during the warm days plenty of ventilation is available for the plants. There are three gas heaters, a water connection, vent in the roof, pea gravel floor, and concrete walks.

Tropical plants share the greenhouse during the winter months with some 250 container-grown camellias. Even though the 40-45 degree temperature may be a bit cool for the tropical plants, they are told if they want to share the camellia house they may do so or otherwise remain outside during the winter months. I haven't lost a tropical plant yet.

The plants are moved out of the greenhouse during the late spring—I don't trust the weather until after April 15th. They seem to do well dur-

ing the summer months under the oak and dogwood trees since no pines are grown in the back garden. The plants receive about 6 hours of sunlight and I think this helps to set bloom buds. The natural rain water is so much better for them than our chemically treated city water. As the plants are moved outside they are sprayed with Oil-I-Cide and examined. Some additional pruning may be necessary. After the plants are moved out of the greenhouse the floor is cleaned and raked and an application of Terraclor is applied as a precautionary measure against petal blight.

Enjoying the greenhouse and helping with the duties are Jerry Hatch who has many camellia plants in the collection and LeRoy Prince, our "household engineer." LeRoy has helped us with the plants for 14 years and has acquired a vast knowledge of horticulture.

The greatest problem we have with the greenhouse is the condensation during the warm periods. This moisture dripping spoils blooms and we are constantly moving plants especially those which seem to water spot more quickly.

The plants are hand misted during the winter months before buds began to open. We don't have an automatic system to perform this duty. We enjoy taking care of the plants and by do-



JOE BRINKEROFF, JR. Standing in Front of His Beautiful Greenhouse.

ing the non-automated duties we can examine the plants and as you know they need talking to occasionally.

Growing camellias in a greenhouse is one of the most enjoyable and relaxing hobbies that a person could possibly have. The care that the plants require affords some exercise and even that is enjoyable and needed. The bloom season starting in

November and lasting through March rewards all of the time, effort, expense this hobby requires. Having beautiful blooms makes the winter months as enjoyable as spring. Having blooms to give to friends, to use in our home, and to enter in the competitive shows in the Midsouth area makes this hobby most gratifying.

—ACS—

A Tennessee Greenhouse

HERBERT T. BROWN, JR.
Chattanooga, Tenn.

I have heard a number of people say "I want a greenhouse"—or "Some-day I'm going to have a greenhouse." Well, I said the same thing some years before I got interested in camellias. Why don't they go on and get one? Most of them do not for the same reason I didn't. I couldn't justify the expenditure necessary to get the ones I saw in the catalogues and wanted. How I wish now I had compromised my thinking years before and it is my prediction that a lot of people are not going to have the pleasure of a greenhouse because they can't justify the beautiful glass ones with all the automatic controls. Certainly glass for sunshine, automatic humidifiers, heating, ventilation, etc. and room to permit air circulation and growing plants in the ground would be the ultimate—but I had to settle for a lot less and just wish I had been realistic years ago—it would have prevented a lot of divots and lost golf balls I chased for 30 odd years. I've enjoyed many hobbies over the years, but I don't think any have been as satisfying as my greenhouse.

When I finally convinced myself that I was going to have a greenhouse, I built one 17 x 32 out of redwood and corrugated plastic. I am not going to say there was nothing to it, but frankly, any (almost any) 60 year old man who wants one can do it.

I had problems, but location was

not one of them. I had one place I could put it and it is *not* North-South as some of the experts say it should be placed. Shade is a problem only in March-April before the leaves get

on the old oak trees. I wanted a level spot and a cement block foundation. Two small contractors promised to bulldoze the location and lay the foundation, but it is hard to get someone to do this type work around here. When they failed to show, I anchored the house by sinking 4 x 4 redwood posts about 2 ft. in the ground and poured a concrete mix around them. This is not as pretty as one with a foundation, but it has withstood some pretty strong winds. There is a drop of about 18 in. from the front right corner to the left rear corner—not ideal but it hasn't been any real disadvantage as far as I am concerned. The next decision was—do I build it high and pay the price of heating or low and contend with poor ventilation and the resulting fungus. I built it 13 feet high in the center and am glad that I did.

OIL-I-CIDE

...for Camellia, Azalea, Citrus
Gardenia and Evergreens...

*Oil-I-Cide Spray Emulsion
rids plants of scale insects,
cleans and shines foliage.
Just mix with water
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OIL-SPRAY IN WORLD



- Removes black smudge from foliage of Gardenias, Ligustrum and Citrus.
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THROUGHOUT THE SOUTH

MAINTENANCE

Don't install a storm door that you can't put a new glass in without taking it apart. Last winter a stray (I hope) BB or pellet cracked the top glass. I'll take it apart this summer, but right now the badly cracked glass is held in place with some vinyl tape.

After 6 years, I am going to have to replace the 4 mil sheet plastic used to line the inside of the greenhouse. It provided a pretty good air space insulation, but a little more spent for 6 mil or "mylar" would have been money well spent because it is a real job to reline one. I did the job on mine originally and have relined one for a friend (wish I had some friends). The roof and sides of my greenhouse are covered with Permalite obtained from Trans-Sphere Trading Corp. Mobile. It is a P.V. corrugated sheet. After 6 years there is no sign of deterioration in the side panels, but while I see no signs of the panels on the roof becoming brittle, etc. I have a hunch that in another year or two it is going to have to be replaced. When this becomes necessary, I think I will use fiberglass. The foam plastic used as a sealer under the corrugated plastic sheets only lasted about 4 years. I don't have the answer but this fall I intend

to use some type foam plastic to re-seal under the corrugated sheets. I may have to use another strip of redwood under the eaves.

HUMIDITY

While I recognize humidity is very important, I do not have a method to control it. When my house is closed the air becomes saturated. There have been times when the temperature has been up to 110° with no sign of wilt in the blooms. But high humidity and fungus and/or mold go hand in hand, so the only thing I know to do is play it by ear. I can open the two doors and 7 vents and reduce the humidity and temperature very quickly. I have a 20 inch fan but have quit using it because the natural circulation seems to be better since the air is not being pulled into the greenhouse through wet mats.

These remarks regarding humidity are made not as a recommendation, but as an opinion that you can get along very well without the added expense of the more elaborate set ups if you have enough vents to create a circulation. Based on my experience and observations, the intermediate type humidifiers (mistifiers or small saturated mats) are not adequate in

that they do not give sufficient circulation of moist air through the plants. I've seen articles on the "chill factors" of cold winds. I am satisfied the reverse is true with hot dry winds.

HEATING

In our section of the country, we have cold snaps and the temperature drops into the low teens and once in a great while approaches zero, so we have to have heat. I have two 5KW electric heaters for my house which has almost 7000 cubic feet of space. They have to struggle when the temperature gets into the low teens, but generally they are adequate, because all I want is to keep it above freezing. I have a 20 lb. LP gas tank with small heater to supplement the electric heaters if we should have a very cold snap or if the electricity should go off. There has been no need to use the gas heater the last three years.

I have no shade in early spring and late fall when the leaves are off the oak trees. This creates a problem of too much heat at times, but if I have to choose, I believe I'll take the sun. In the summer my plants are out of the house and under partial shade of oaks.

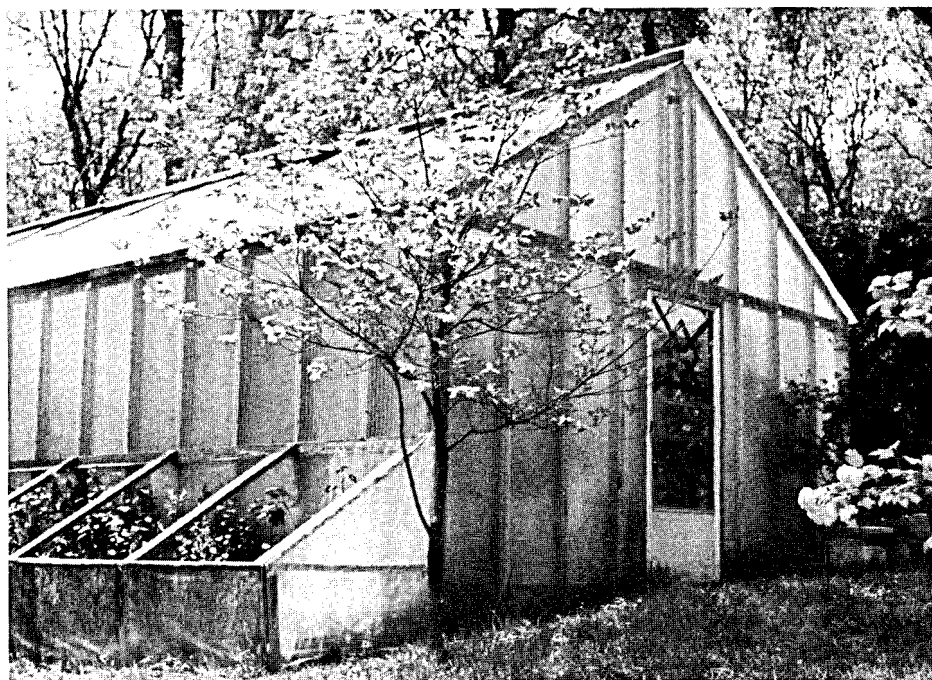
FERTILIZING

I have heard and read so many different programs for fertilizing camellias, I am at a loss to say just what I do, but I will offer a few points:

—too much nitrogen will burn and/or kill camellias very quickly, so take stock of what you have put on your plants before adopting a new program.

—I prefer organic fertilizer such as "Nurseryman's Special" and cottonseed meal—small amounts regularly.

—right or wrong someone has convinced me that Sterns Miracid is good for trace elements so I have been using it in spring and fall. I finally located a bag of Es-Min-el in Birmingham, but I don't know how to use it even though I have seen recommendations for using it. I dug back through a bunch of camellia periodicals and the only directions I could locate



Herb Brown's Greenhouse, illustrating the use of a coldframe attached to it.

were by one writer who said he uses "1 spoonful per plant" in the fall. This is pretty vague, so I'll wait until someone else is more specific.

WATERING

One of the hardest things to pass on to another is how to water your plants. The only way I can tell when a plant needs water is to "feel of it" with the back of my fingers. A set time interval like "once a week" does not work for me. Most of my plants are in my own soil mix, but overcast days, low humidity, different sizes, new growth, blooms, all seem to influence the need for water. I try to stay "in touch" by spot checking every few days. It helps me to judge whether or not I am watering about right as well as spotting any dry plants. Our city water is loaded with chemicals. One of these days I hope to get set up to catch and use rainwater. The small plants in my cold frame have a better color and are healthier because they are never watered with city water except maybe a time or two in late summer. This is the reason I move all my plants out of the greenhouse just as soon after May 1st as the new growth hardens enough to stand the winds, and I do not put them back in until November 1st.

SOIL MIX

I ran into a young fellow at one of the shows from lower Miss. He had boxes of the prettiest Retic Hybrids I have ever seen. Naturally, I made it a point to corner him later in the day. One of my questions was regarding his soil mix. According to him he goes to the woods and gets some dirt and mixes it with sand and a little peat. When I tried to pin him down on proportions, he said he didn't know because the dirt varies so he just mixes it by feel, and I believe him. My mix is:

One part soil

One part coarse sand

One to two parts pine bark (fine) this varies with the feel of the soil being used.

I used a medium size pine bark in the bottom of the containers and about 1½ to 2 inches of the same bark on top.

Josh Wilkes in Moultrie always uses a mulch on the top of a container plant. I used to take it off when I got my plants home until a year ago I made a trip in May and brought back some 1 year grafts that he had dug during the previous Oct.-Nov. Upon removing the mulch I found a lot of good feeder roots on top of the soil. Since then I have kept a bark mulch on all my plants even though it is a little more trouble determining the need for water.

CANS VS. IN THE GROUND

Plants in the ground are far better than any I have seen in containers. Other than at a nursery, I've seen only a few plants in the ground in a greenhouse, but those few convince me I would love to have the space to grow mine in the ground. I am tempted to take one corner of my greenhouse and put several plants in the ground spaced, pruned and trained "up" as if they were in a No. 15 can. The surface roots could be contained but I wonder if they would spread out underneath and prosper reasonably well.

Woodworking is my other hobby so naturally I wanted to make some redwood or cedar tubs. I am con-

vinced they are better than any other container but to buy the wood costs more than the ready made tubs and anyone who has priced them around here knows they are very unreasonable. In the meantime, I guess the metal and plastic ones will have to do.

PRUNING

Two years ago I visited George Garrison's greenhouse. It changed my whole concept of pruning. Over the years, he has pruned and trained his plants so that none of them extend beyond the container they are in. This is easier said than done. I have been cutting on my plants for two years now and have made some real progress, but it takes time and patience because some plants do not lend themselves to this type shaping. This work has enabled me to put more plants in my greenhouse, it has improved air circulation, and, as I get my nerve up, I am more nearly approaching a more reasonable number of terminals left for buds. This year I have done a lot of pruning as the growth buds start elongating.

Hand in hand with the pruning is tying the limbs to the main trunk into a more compact bush without crowding or crossing them. It isn't easy but, as you work in this direction, you develop a better feel for accomplishing your objectives. My plants do not look like camellias



This shows the drastic pruning of plants in a greenhouse in order to have more good blooms and more plants.

grown in the ground, but I am satisfied this is necessary if you do not have unlimited space. In fact, I am satisfied that my plants are sturdier for having directed the strength into fewer branches.

FUNGUS CONTROL

I am not a scientist by training, but common sense dictated that I was going to have to make progress in controlling fungi because it was about to destroy my enthusiasm for growing camellias. There were several things contributing to an excessive amount of this.

1. I was keeping my greenhouse closed on sunshiny days in order to keep the humidity up. This practice was suggested by someone to keep from ruining the blooms and/or new growth.

2. I had been buying 1 year grafts on large understock, which meant that most of them were dropping some leaves due to the shock of being dug and placed in containers. (I was not having trouble with dieback in the twigs because I had accepted the theory that a very low PH locked in some of the trace elements and caused this problem.)

Up to this point I had not sprayed my plants with any fungicide because I had not read or heard that I should. Well, I did some things that obviously helped:

1. I was already convinced that a low PH locks in some of the trace elements and contributes to twig dieback, so I continued to apply lime periodically—a handful per No. 7 can once a year. My mix is around 5.5 to 6 or lower based on my crude tests. I say crude because I am not satisfied with the paper strip or the chemical soil test kits. The problem is in taking the sample from a container instead of a field.

2. I make it a practice to open my greenhouse every day I am home even though I know the humidity is going to drop to practically nothing and the blooms and tender new growth are going to wilt badly.

3. I started spraying with Benlate,



Canker-prone 'TIFFANY' shown two years ago after drastic surgery for canker and dieback. This past camellia season it produced some excellent blooms.

Cyprex and Captan. This is hard to do when you have blooms. You can't just cut loose and saturate as you should to do a thorough job, so you have to take more time and do as thorough a job as you can without ruining too many blooms.

4. I made a very close inspection of my greenhouse every morning before going to work. I found that 30 min. gave me a lot of leads to trouble spots. There were two main things I was looking for: (1) any sign of wilt on a plant, and (2) any dropped leaves. This sounds like a tedious undertaking, but at the time I only had 125+ blooming size grafts and 25 to 30 smaller plants.

My objective was to spot dieback as soon as possible so I could save a plant and eliminate the formation of any spores. I even went so far as to cut out all cankers where the plant had healed around in order to eliminate all possible sources of spores. I had tried Griseofulvin but could see no signs of correcting the problem.

Well, I pruned, carved out, sprayed and painted with Tree-Cote (with Benlate in it) until my old plants looked as though they had been "shot at and hit." Every new plant was checked (graft union, dropped leaf or skinned place) and I found plenty of dieback in the early stages. I won't say that I have eliminated dieback, but it has been some time since I have found it in the cambium layer of any of my plants. I still check and

paint every suspected spot because I am convinced that the spores of "dieback" fungus travel in or on the air currents in a greenhouse. I agree that the fungus enters through wounds, especially where the leaf is or was attached to the plant. Many times I have seen the fungus already in the cambium layer of the plant with the leaf still attached. At first I assumed that the leaf was partially detached thus opening the wound for the entrance of the fungus. However, I am convinced that in the high humidity of a greenhouse, the fungus spores germinate on the leaf stem at the junction and enter the plant before there is any wound. This spurred me on in my determination to eliminate the source of all spores through spraying, pruning, and/or carving out all dieback just as soon as I could spot any sign of it. I do not have the facilities or the training to prove just what turned a nightmare back into an interesting hobby.

PROPAGATING

In my opinion, a lot of camellia enthusiasts with greenhouses in my section of the country are missing a lot of fun by not propagating camellias. My first experience with rooting cuttings was before I had a greenhouse. I put 10 'PINK PERFECTIONS' and 10 'DEBUTANTES' in a "covered wagon" (coarse sand and peat moss in 2¼" pots enclosed in plastic bag). Twenty cuttings and twenty nice little plants—beginners luck, plus the fact that these two varieties are about the easiest of all to root, but this experience whetted my appetite for this type of action. I have put an intermittent mist with heating coil in one corner of my greenhouse and have rooted most every variety of camellias (125) that I have. And just for fun, I have rooted azaleas, hollies, tea olives, rhododendrons. Like the old chestnut about the alligators, "we would be up to our 'hips' in alligators if the papa didn't eat most of the babies"—if I hadn't killed a lot of little plants (1) by using a very acid soil one year (2) by watering or

soaking one years crop from the bottom (3) by planting 100 plants in a friend's pine grove and having the rabbits eat most of them and (4) by giving away a great many, I would be "up to my hips" in plants. I have kept a few and have gotten some nice blooms. Most of my cuttings now are sasanqua 'DAYDREAM' understock.

SEEDLINGS

Some of my friends "indicate" (they are nice enough not to come right out and say as much) that they think it is foolish to plant seeds when about all you get are "singles" (makes good understock) and "Look alike." I have been planting about 100 seed a year. I order them from California. I am under no illusions that I will come up with anything revolutionary, but I get a big kick out of watching them open. So far about 25-30 have saved their "heads" by producing a pretty little flower which prompts me to test the comment that a plant has to bloom three years before you know what kind of flower it is going to produce. I've been attending shows for six years now and I haven't seen many seedlings worthy of certificates or of being named. I agree with the thought expressed by David Feathers

in an article he wrote for the *Camellia Review* in which he said that some of our prettiest varieties have weaknesses and we need improved varieties as much as we need distinctively different ones. For example, 'TIFFANY' and 'VILLE DE NANTES' and their susceptibility to dieback, others bullnose, shatter, won't hold up long enough to get a show. 'WOODVILLE RED BLUSH' is a beautiful flower but the worst looking plant I have in my greenhouse. In addition, none of the 'TOMORROW' family is a very pretty plant.

GRAFTING

I get a real thrill out of grafting (plants, not political)! but I'll never put the nurseryman out of business. I liked Harold Dryden's editorial a year or so ago in the *Camellia Review* about how few nurserymen are left who specialize in supplying us with the new varieties, and the fact that we must support them or we are going to wake up one of these days and find ourselves without nurseries like Nuccio's, Wilkes', Belle Fontaine, Gentry's, Cannon's, Stewart's, Parker's, Beard's, Tammia, Howard's Laurel Lake Nursery and a few others. No, I get my kicks out of grafting varieties that I have been unable to locate

at any of the nurseries, or from getting a scion from a plant that has produced a beautiful bloom even though I already have the variety.

About 20% of my greenhouse is my "work area." This is where I make cuttings, graft, sprout seeds, and pot the small plants. In the warmer sections of the country they can carry on this interesting side of this hobby on the outside, but here this is the only place I have to enjoy this part of the hobby. Each year when it comes time to put plants back in the greenhouse, I am faced with the problem of space, too many plants for the available space, even though I built a 24 x 4 cold frame as a "lean-to" on the side of the greenhouse for all my small plants. But I have no intention of giving up any of my "work area." I can't imagine my having a greenhouse without one.

It is late in the day for an old man like me to start another phase of this fascinating hobby, but next year I hope to make some crosses. Can you picture the thrill of watching a seedling bloom that you have crossed, sprouted, grown and grafted—that would be a thrill even if it was only a "throw back"—all of them are pretty, some just prettier than others.

Picking—Packing and Piddling

DOROTHY COPELAND

It so happens that I am blessed or cursed, depending on the point of view, with a husband that wants to attend a camellia show and enter blooms from our greenhouse every weekend during the camellia season. To make matters worse he expects me to start picking flowers on Tuesday morning for the coming weekend and have them arrive at the show on Saturday in perfect condition even though we might leave Jackson as early as Thursday.

Through trial, error, disappointment and sometime even heartbreak, methods have been devised to nearly accomplish this purpose. Picking,

grooming and preparing blooms every morning from Tuesday to Saturday is a time consuming task, and I am not sure how many men have the necessary patience.

I am definitely opposed to "Womens Lib" for if Clyde liberates me anymore with the camellias I will be going to the woods after leaf mold, mixing the soil, and repotting the plants. However, the proverbial "Bull in the China Shop" is a graceful nymph compared to my husband in a greenhouse full of blooms. So it was strictly a matter of necessity that I assumed the responsibility of picking the blooms and getting them to the

shows in proper condition. Besides, I got tired of brushing the yellow pollen from the seat of his pants.

In getting back to the subject at hand, it is felt that a few small items are needed for proper grooming of blooms that should be available both when cutting and entering them in a show. I have a small plastic box that contains a pair of finger nail scissors, several Q-Tips, a small artists brush, an eye dropper, a pair of tweezers, and a very small pair of flower cutters.

When a bloom has been cut it is carefully examined. Any liquid in the center is withdrawn with the eye dropper, pollen is removed with the artists brush, any trash or speck is removed with a Q-Tip or tweezers. Polyester fiber is then placed between the leaves and the petals to prevent any damage enroute to the

show. The stem of the flower is then inserted in an orchid pick or placed in a small plastic cup. The liquid used in the picks and cups is composed of one heaping teaspoon of Floralife and one teaspoon of sugar to one quart of water.

If any blooms are cut on a Tuesday or Wednesday they are placed in Tupper Ware and stored in a refrigerator until we are ready to leave for the show. A damp paper towel is placed in the bottom of the Tupper Ware container and then enough polyester fiber is added so that the bloom is actually resting on the fiber and not the edge of the cup.

Blooms cut on Thursday or Friday are handled in a similar manner except that when they are cut they are placed in the styrofoam boxes in which they will be transported to the

show. Please let me emphasize that all blooms are packed so that they rest entirely on polyester fiber and in such a manner that they touch no other bloom in the box.

All blooms are transported to shows in styrofoam boxes, the type that are used in the shipping of tropical fish to the pet shops. A frame has been made to fit in the bottom of each of these boxes and a piece of hardware cloth is placed on the frame to create a false bottom. The frame is 1½" high and the two cross braces are spaced so that three solid trays of ice from the refrigerator will fit under the hardware cloth. Partitions are not used in the refrigerator trays when ice is being made for the camellia boxes. Solid blocks seem to last longer. Four large blooms and one miniature will fit in each box.

The back seat is removed from the car and a flat board covered with one inch foam rubber replaces the seat. Nine styrofoam boxes will fit in the car. These boxes are covered with one or two blankets and one tarpaulin and strapped down. With ice in each box and the boxes covered in this manner there is little change in temperature inside the boxes regardless of the weather outside, and we do not have to worry about where to store our flowers when we arrive on Friday for a show on Saturday.

Final grooming is carefully done as the blooms are removed to be entered in the show. Then it is only a matter of keeping Clyde "cool" until the judging is over.

It seems that it is my lot to do the picking and packing and my loving husband does the piddling.

The Best Thing in Life is Free—Fresh Air

C. W. LATTIN
Lauderdale, Miss.

Assuming that the serious camellia collector and/or grower has given his plants a proper soil mix, proper watering, fertilization, spraying, insect treatment and other maintenance jobs, I believe that the most important single item other than the routine care is ventilation in greenhouse culture.

Plants that are grown on the outside (unless they are grown too closely together) have plenty of ventilation which keeps down, if not entirely eradicates, fungus on the flowers (except petal blight which will not be covered here as it is a subject all and to itself and has nothing to do with greenhouse ventilation).

I am speaking of ventilation within a greenhouse where, without proper attention, conditions become too moist and humid which promotes fungus growth (mold) on the stamens, anthers and pistil of many otherwise blue ribbon camellia flow-

ers. In camellia shows many blooms exhibited show that scissors and/or tweezers have been used in attempting to remove the "blight."

All of my plants that are used for exhibition flowers are container grown and are moved in and out of the greenhouse at the proper time in the fall and spring. While the plants are in the greenhouse all watering is done by hand with the exception that on hot days I have four thermostatically—time and manually—controlled rotary floor sprinklers set very low to the floor so that they do not get any water on the plants or flowers—just the gravel floor which gives off enough humidity. Under no circumstances do I spray water on the plants or flowers.

The windows in my greenhouse are opened manually every day that the weather is above freezing (34 degrees) to their full capacity to allow for cross ventilation. However, on or

during windy days the windows are closed enough to stop any movement of branches or flowers. Most greenhouses I have observed are, in my opinion, kept entirely too moist and humid and offer prime conditions for mold. In addition, I have two 36-inch thermostatically — time and manually — controlled exhaust attic fans which, on quiet or hot days, pull fresh air into the greenhouse and exhaust it out. They create a good circulation of air which is so necessary if one is to grow and exhibit good and firm blooms that do not "fold up" soon after being placed on the exhibit tables. Many growers, I believe, are afraid to open up their greenhouses or are just too lazy to take the time or make the effort to operate the windows.

Ventilation, if properly controlled, is one of the prime prerequisites of growing and exhibiting fine flowers. During the blossoming season it is a job that needs close and almost constant attention and unless one can afford a completely automatically operated greenhouse it will require more of your daily time and effort than any other aspect of fine camellia growing.

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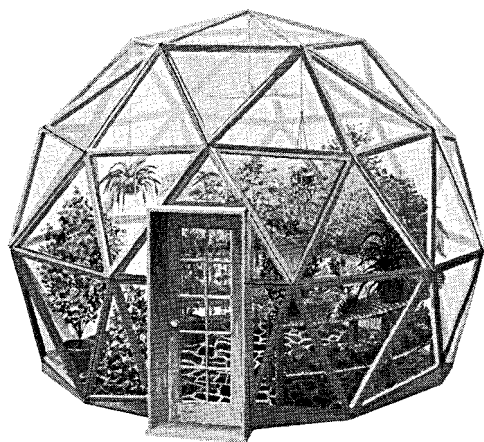
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(Please turn to page 34)

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The Greenhouse and its Application to Camellia Breeding

WILLIAM L.
ACKERMAN *

A greenhouse is an absolute must for the plant breeder working with camellias in a climatic area such as Washington, D. C. Weather, always an unpredictable part of life at best, is perhaps even less so here than in the camellia areas further south. Controlled crosses take time and patience, and to depend on the uncertainties of the weather is too much of a risk for the breeder who places value on his time and efforts. A good breeder wants to know the parentage of his hybrid seedlings, and also wants to know and control as much as possible, the light, temperature, and humidity of the immediate environment where the parent plants live. For this, he needs a greenhouse.

Light

When we speak of light, most camellia growers think of light intensity. Camellias do best in filtered sunlight, ideally such as that provided by an overstory of pines. These are conditions for outdoor—not greenhouse culture. Under glass, we can not only control the amount of light more suitably, but we can also, by the use of artificial lighting, regulate day length.

During the summer, Saran shade cloth, available in a wide range of densities, or a linseed oil-whitewash mixture, can provide the amount of shading desired. Approximately fifty percent reduction in light intensity in this area seems satisfactory, and, of course, affects a desired reduction in temperature as well. Most camellia greenhouse growers are familiar with the summer manipulation of natural light for their own area, but perhaps are less familiar with the use of supplemental lighting in winter.

Often, the plant breeder must wait from three to six years for his seed-

lings to flower. This can be the most exasperating part of breeding new camellias; and anything that can be done to shorten this time is a reward in itself, for frequently the results of the crosses that were made determine if the breeder should continue the same approach and objectives, or pursue new avenues for combining genetic characters. Extending the day length by artificial lighting can do much to shorten the time to bloom indoors. Artificial lighting can be quite expensive, but yet need not be. It may consist of anything from a few Gro-Lux fluorescent tubes above a small section of greenhouse bench without automatic controls, to lighting an entire greenhouse with time-clock activation.

At the Plant Introduction Station, Glenn Dale, Md., we find that a series of portable frames, each holding eight, four-foot Cool White fluorescent tubes plus four 25-watt incandescent bulbs, works quite well. The Cool White tubes are less expensive than Gro-Lux or the newer "wide spectrum" tubes such as Vita-Lite; and when supplemented at the red-end of the light spectrum by incandescent bulbs, serve equally well. The frames of lights are suspended over the benches so that they may be raised or lowered according to the size of the plants. The lights are activated by an automatic timer providing an 18-hour day. With adequate fertilization, this will stimulate most hybrids to bloom in 18 to 24 months from seed.

Temperature

The most favorable greenhouse temperatures depend upon your objectives. Most camellia greenhouse growers advocate cool growing conditions—generally between 35 and 55 degrees—and this is true if you want

show quality flowers. The breeder, however, has a different set of objectives. First, he wants a maximum seed set from his crosses, and second, he hopes for rapid vegetative growth on his small hybrid seedlings; forcing them into flower as quickly as possible. For both of these objectives, higher greenhouse temperatures are desirable.

The author maintains one greenhouse with a thermostat setting of 65 degrees, specifically for his breeding parents. This temperature setting appears quite satisfactory for optimum seed capsule development from controlled crosses. During the 1973-74 season, the temperature of this house was lowered to 55 degrees as a means of conserving fuel oil, and the consequence was a drastic reduction in seed set. Although it was difficult to ascertain the exact reduction experienced, because of differences in the kinds of crosses made each year, the number of viable seeds that year were between 50 to 60 percent below that expected. Needless to say, during the

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1974-75 season, a temperature setting of 65 degrees was again maintained, with a return of expected seed capsule development to normal percentages.

Similarly, vegetative growth of young plants is affected adversely if temperatures are not maintained close to 65 degrees; and where supplemental light is provided, temperatures of 70 or even 75 degrees, are even better.

Fertilization

Frequent feeding with soluble nitrogen tends to keep a plant in a vegetative condition at the expense of flower bud formation. This is fine when you are interested in getting small plants up in size. With such plants, I apply a fully soluble 23-19-17 fertilizer at the rate of one level tablespoon per gallon, once a month. Where I have small plants under artificial lights, it is applied every two weeks.

Some plantsmen (not necessarily camellia growers) claim that if you half starve a plant, it is more likely to set a heavy crop of seed. The implication here is that the plant thinks it is going to die and tries to reproduce its own kind. I have never felt that starving plants accomplished anything other than having a group of sick looking specimens. On the other hand, it is essential to keep a low nitrogen-to-phosphorus and potassium ratio for abundant flower bud formation. Therefore, I stay away from highly soluble nitrogen fertilizers for my breeding parents, and use instead, a sulfur-coated urea, a very slow release fertilizer.

Plant Care

Most of my seed parents are grown in ground benches, where they have plenty of room, and can realize maximum flower production. Growing them this way, is less economical of space utilization than if grown in containers, but they do flower profusely year after year. Many of these plants have been growing this way for from 15 to 20 years. When a particular clone is no longer desired, it is re-grafted rather than replaced.

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New grafts frequently begin flowering their second year. Thus, the plants themselves are relatively permanent, cannot be mis-labeled or misplaced because a permanent bench sequence record is kept, and they are not subject to many of the vicissitudes of over-or-underwatering as are container grown plants when serviced by a rotating staff of greenhouse personnel.

Pollen parents are most often grown in containers. As such, many more can be grown in a given space, and they are mobile. Particular clones may be moved to a warmer house and forced into flowering ahead of those seed parents upon which crosses are desired. Camellia pollen, if properly collected and stored under refrigeration, can be kept for several months; but frustration can set in when a seed parent blooms before the pollen parent of your choice.

Growing Media

I use the term growing media rather than soil mix, because today there are a number of widely-used growing mixtures which do not contain soil. For container grown plants, good drainage is essential, and yet the material should retain some moisture, unless you plan to water several times a day during hot weather. Also, the material should be slightly acid, or in the range of pH 5 to 6.5, for good growth. Camellias are not heavy feeders so the mixture need not be high in nutrients; these can be added as desired.

A very basic growing media that may be used, is pure shredded sphagnum moss (not sphagnum *peat*.) We purchase the raw unshredded product in bales, run it through a soil shredder, and use this material for many purposes. Placed in flats, it is excellent for germinating seeds, keeping them moist but still

well aerated. If the flats are well watered after sowing, and covered with glass, they require very infrequent watering. Sphagnum contains a water soluble inhibitor of damping off disease, so fungicides are not generally necessary. Sphagnum may also be used in growing young plants on in pots, although they do require subsequent feeding with soluble fertilizers. The media is very light, and the root balls do not fragment from rough handling like most growing media, making it excellent for shipping plants through the mails. As an inert media, it is also not restricted by plant quarantine regulations, which apply to the transportation of soil.

Besides sphagnum moss, we use several mixes that have proven quite satisfactory. Equal parts of German peat, composted soil, and coarse sand, does well. Sometimes agricultural perlite is substituted for the sand, which makes a mixture lighter in weight. Vermiculite has also been used as a substitute for sand, but we are not completely happy with it, since it has a tendency to shrink or disappear, allowing the plant to settle in its container.

Containers

We use a wide assortment of containers, sometimes dependent upon plant size, sometimes not. Clay pots are our standard, although we also use plastic pots, metal cans, and occasionally, wooden tubs. During the past year, we have experimented with plastic-lined wire baskets. The baskets are purchased broken down and have to be assembled, but they are light weight for the 10- and 14-inch diameter sizes we use. With the proper media, they provide excellent drainage, and do not tip over as readily as regular pots.

In most cases, handling camellias for breeding purposes is not much different than growing them for show or personal use, except perhaps that greenhouse temperatures are kept somewhat higher. Good cultural practices make for good plants, and that, after all, is what the whole business is about.

Greenhouse Construction Varies

The size and shapes of greenhouses vary as much as the size and shape of camellia growers. A "happy Harry homeowner" who has a knack with tools—as well as his love for camellias—can perform miracles in making a greenhouse. Others, like your Executive Secretary, are more adept at flower growing, writing, etc. and therefore rely entirely on the greenhouse manufacturers, who can "advise and consent" on how to erect the greenhouses they make. Many of these are easy to assemble as they come pretty much like a large erector set—if you are old enough to remember those useful toys. You will see various of these excellent easy-to-assemble greenhouses in the various ads contained in this issue.

There follows, then, several short articles on greenhouses made "from scratch" by some of our members and how they adapted such structures to their own homes or gardens.

DR. H. L. BERRIDGE Ft. Walton Beach, Florida

Protection for camellias had its beginning with protection from rain and occasional frosts in 1970. On the southeast back side of the house I framed in a 12' x 20' space. My workshop and the dining room window looks out into this. The roof, with rafters 20' long follow the roof line of the house. I used cross pieces mortised in on 2' centers. The end abutted on a closed screened porch on the west side. A framework on 2' square centers at the east end. Visqueen plastic was used on roof and

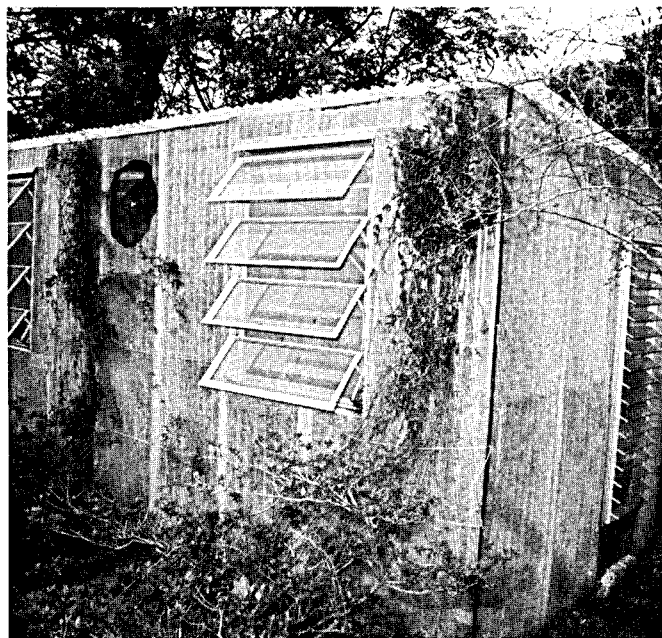
open end which was held in place with 1" x 1/4" lath. A double curtain was used for the front (south opening) so that it could be raised to provide ventilation. Later a corrugated clear fiberglass roof replaced the plastic. With the overhang of the eaves, the total space is actually 14' x 20'. Heat from the house affords protection from frost and if a hard freeze is forecast a small electric heater is used. The plastic east end and front opening is put up in anticipation of frosts in fall and removed after danger of frosts in March.

Like other camellia growers, this space rapidly became much too small. Another shelter was needed as more plants were added to my collection. The second one is toward the back southeast corner of our lot—16' x 20' with north door opening—facing the house. This was framed in with treated pine lumber. The roof and sides are clear corrugated fiberglass panels. Height—8' sloping to 7' on east side. Two awning type windows are located on the high side (west) with a ventilation fan. The low side (east) has two swing out sections each 2' x 3'. The south side, opposite the door is a 2' x 6' jalousied window and a second exhaust fan provides ventilation. Heat is provided by a catalytic heater. A small electric heater is used during periods of freeze warnings. About 140 camellias are provided shelter in the two places.

Sheltered camellias are container grown and have been removed from shelters to partial shade during summer. We tried polypropylene which cut out too much light to offset the heat build up during hot months. This had to be removed as we needed more light. Kay objects to my lugging plants in and out. I am now engaged in some mental gymnastics to resolve the heat problem. We saw Jeff Fuller's sliding roof in Montgomery this spring—a great idea.



Dr. H. L. Berridge greenhouse attached to southeast of house and carport 14' x 20'. Contains grown plants taken outdoors during warm weather.



Dr. H. L. Berridge greenhouse and back S E of lot showing west windows and fan opening and south jalousie window.

RICHARD G. KIDD, JR.
(Lt. Col. ret.)
Ft. Walton Beach, Florida

Do it yourself greenhouse, with a little help? Last spring my wife, Bunnie, got the hanging basket bug. This kept up all through the summer and into fall. Come the first of October and I began to wonder what to do with 36 hanging baskets with all kinds of ferns and creeping charlies. By this time each had its own name. Being of Scottish origin I began to figure how much was invested in each of these baskets. The conclusion I came to made me decide that something had to be done. I would see us trying to get around through the living and dining rooms with baskets all over the place. I decided that we had to have a greenhouse. Several of my camellia friends had already built or were in the process of building greenhouses. I went around and looked them over but none seemed to fill the need that I had in my mind. I wanted something that would provide hanging space for my wife's baskets and a place where I could do some camellia grafting.

Having spent some time helping to put up and taking down quonset huts on various islands of the world, I set out to design a greenhouse similar to a quonset. I had been doing some work on my sprinkler systems and had several pieces of 1" PVC pipe on hand. I got the idea of using this for arches. With the help of two of my sons, John and Scott, I found out that the P.V.C. pipe would form an arch 12' wide and 8' high in the center. After making a number of sketches, I finally decided how to put my greenhouse together. What you see is the final outcome. I'm sure that others improvements can be made. The following suggestions for putting one together with a few dos and don'ts.

I poured a foundation about 10" wide by 8" deep, with 2 $\frac{3}{8}$ " reinforcing rods. After clearing out trench for foundation I put in the $\frac{3}{4}$ " EMC pipe setting them out

approximately 15° to the vertical. A 10' piece was cut into three pieces approximately 33" long. I put these into the frame about 6". This would leave about 12" above foundation and 1 layer of blocks. As soon as the concrete had set up—in three or four days—I began by putting all the arches together. I had previously cut the peg board into 3" strips. With the help from my son I put the first two pieces of fiberglass together with an 8' strip of peg board clamped to each arch temporarily. I drilled holes through fiberglass using holes in peg board as guides, then placed 1" by 3/16" bolts through holes using aluminum washers on outside to protect fiberglass panels. A variable speed drill with a screwdriver attachment speeds up putting clamps on. You must have someone to hold a pair of pliers or a wrench on the inside. Place the final form top to bottom using C clamps to hold in place until you get the bolts started. Be sure to overlap at least 1 full corrugation. After completing the arch sides, the end panels are nailed to stud—wall type studs.

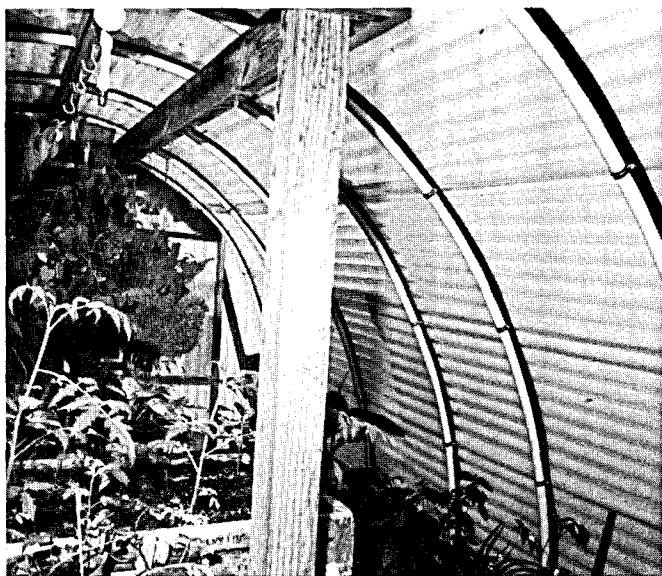
I suggest studying the drawings and photos before beginning to build.

DR. ERBY LEE MASSIE (Lt. Col. ret.)
Shalimar, Florida

A few years ago I was assigned to Eglin AFB and moved my family to our new home. It was love at first sight. The summers were warm; the waters of our many water ways unpolluted, sparkling, and beautiful and the plant and flowers of this new area fascinating. Even as a small boy back in Kentucky I had a keen interest in gardening. I sometimes wonder how my motivation with animals led me to become a veterinarian rather than seeking the other almost as interesting road to becoming a botanist, but that is long ago. There was a color spectacular of azaleas in the spring; an extravaganza of crepe myrtle in the summer followed by the crescendo of all flower creation—the camellia. There was no question about it, I was hooked!

That first season all my pin money went to purchase camellias. I was known by almost every nurseryman in the Ft. Walton Beach area and was probably considered a soft touch by many. Some of my camellias were good and still with me, but I am afraid most succumbed to improper planting, too little or too much fertilizer, die-back or the many other ailments common to the rank amateur. I would have undoubtedly given up in defeat if I had not heard of the local camellia society and subsequently paid them a visit.

The Ft. Walton Beach Camellia Society is kind and patient with a beginner and it wasn't long until I was tossing around camellia names as if I knew what I was saying. They explained how to plant, show, root, and graft and I soaked up knowledge like a sponge. Although my enthusiasm was usually greater than my



skill, I nevertheless tried. My first year of grafting ended in 100% failure but this year, to date, all look good. Keep your fingers crossed. I'm still in there and if I fail this year I'll try again next year.

Although this part of Florida has a climate to be admired, sometimes "Mr. Frost" does pay us a visit. Since I have been here I have never known the temperature to remain below 32° for longer than a day, but we do have several days when the night temperature goes below 40°F, in winter and early spring. A protected greenhouse is not absolutely necessary here, but it does give one a feeling of security. Building a greenhouse would be my next project. I had not any intention to "go it big," so I planned a small lean-to 6' x 6'. I attached it to the south east side of my house where it would trap every ray of warm sun. My only source of heat would be a small 300-watt bathroom electric heater equipped with a small fan. The house itself was made of four pine board panels which I painted barn red. The front panel was 6' x 6' square, divided into four small areas with strips of 1 x 2 pine. The covering was clear Polyethylene 4 mil thickness. The side panels were 6' x 6' with a roof angle of 2'. The eastern most panel was equipped with a door. The roof was of corrugated clear plastic sheets. Inside the greenhouse I constructed a bench 4' high x 6' long and 20" wide. This bench was against the house brick wall. This allows tall plants to be placed in front of the greenhouse for maximum light with small plants, cuttings, and grafts placed on and under the bench. Water was near at hand with the watering chore performed daily. The greenhouse is put together with screws so it can be taken down and stored in the summer.

At this writing my little greenhouse of two seasons is too small. My first intent was to use it as a winter shelter and store it in the summer. I have now discovered that by stapling a piece of cloth over the overhead roof to cut down the sun it makes an excellent place to root cuttings and keep my grafts. I have hinged the roof so I can raise

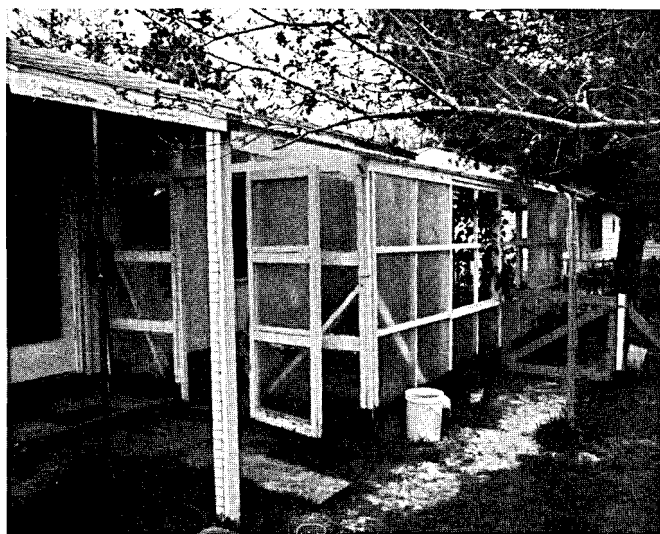
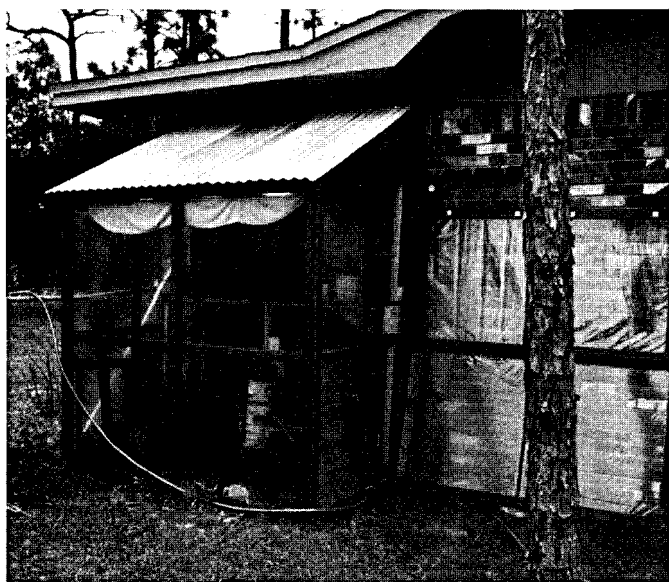
it like the lid on a hot frame and thus eliminate the heat build-up. The protected area can be easily watered and the humidity is not dispersed by winds so cuttings take quickly. I have just finished another 6' x 6' front panel and a new roof panel of corrugated plastic. These panels will be added and held by screws so that I will soon have a new greenhouse 12' x 6' and that should do me a while. One of this type costs about \$30.00 and should last for several years. I do not consider myself especially handy with tools and believe anyone with motor saw could do the same as I. With a little effort, I am sure you can do an even better job than I.

L. M. BENJAMIN Ft. Walton Beach, Fla.

After losing the blooms on most of my less hardy plants I decided to build a small green house. I used part of the south side of my house for one side. The greenhouse is about nine feet wide and eighteen feet long. I extended the rafters under the overhang of the roof and thus had an eight inch pitch. I then covered the roof with clear fiberglass panels and the three sides with clear plastic. There are doors on the east and west ends. There is space enough for 35 or 40 plants in this greenhouse.

Some plants are brought in about November 1, and the remainder as the weather demands. They will be all outside about April 1st. Since the greenhouse is built in connection with my house, it is only necessary to heat when the temperature goes down to 25 degrees or lower. There are two panels on the south side that can be removed in the spring. These openings permit a circulation of air. They are covered with nylon netting to keep the bees and insects out.

When building I put down 4" by 4" creosoted posts on the corners and sides (8 in all), also a 2" by 4" sill. There are six 2" x 4" rafters with 4 1" x 4s" laid across them. The fiberglass roofing is fastened to this.



C. J. SHAUGHNESSY

Groves, Texas

After growing camellias in the open, in the ground, for more than 15 years, I "was forced" to build a greenhouse. That is, if I was to have beautiful camellia blooms all during the blooming season, fair weather or foul, like many of my camellia friends who had greenhouses. I had no other choice.

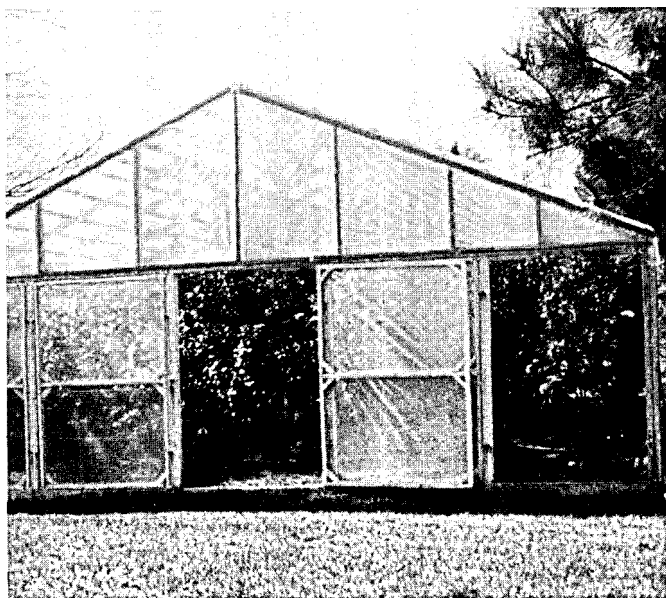
But this also posed a problem. Many of my friends were able to call a contractor and tell him to design and construct a greenhouse according to their needs. Well, I happen to be in a class of senior citizens who are not quite that affluent, so I had to go to my drawing board—the dining room table—and come up with a "poor boy" model that would fit my pocket book and my needs for growing camellias in a greenhouse. This had to be an all-season type greenhouse because *I like to grow them in the ground* and have plenty of light, air circulation, drainage, etc. I had ample space so I selected a high spot away from trees and measured off a plot 25-ft. by 50-ft. and built an enclosure around it with 1-in. by 12-in. cedar boards, leaving one end open. I plowed this space with a "turning plow" then hauled in new dirt, sawdust and shavings from a saw mill and well rotted barn yard manure, about one-third each and filled it to the top of the 12-in. boards. This was thoroughly mixed with a rotor-tiller and allowed to "weather" for two months.

Now begins the construction of the frame for the building. I set 4"x4"x10' treated fir posts two feet in the ground every five feet around the plot. This left seven feet above the ground level of the filled in plot to the top of the posts. Two by four joists were bolted together in the center of the building to span the 25-ft. width and placed on 30-in. centers. The rafters are on a

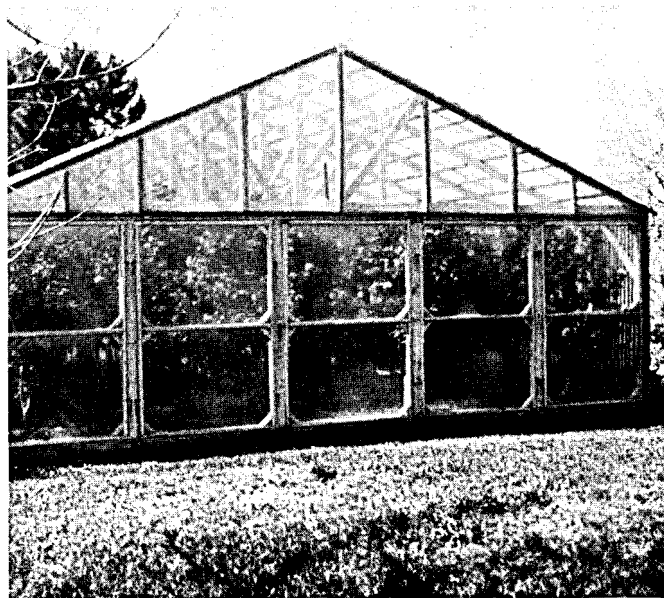
6/12 pitch and braced to the joists in such a way as to eliminate any posts in the center of building. A post would take up the space needed for a camellia plant. One by four strips are nailed on top of the rafters on about 14-in. centers, running lengthwise and one-inch mesh galvanized wire covers the entire roof. On both sides of the frame structure I have 1½-inch wirebound wood pickets spaced two inches apart from the roof to the ground. After about one year I decided that afforded too much shade and I knocked out every other picket with a hammer.

Two by two frames approximately 5-ft. by 7-ft. were made to fit in the five openings in each end of the structure with the middle frame hinged to make a door and the other frames fitted with hook latches for easy removal when not needed for weather protection. These frames are covered with 6-mil clear plastic sheeting and in the summer, when not in use, are stored in a building. Because of this protection, they only have to be recovered about every third year.

To cover the rest of the frame building, I purchased a 28-ft. by 100-ft. roll of 6-mil clear plastic sheeting. As I unrolled it I cut off the first six feet. This leaves a 94-ft. length which is cut in half and gives me two 28-ft. by 47-ft. pieces. These pieces are then unrolled from the 28-ft. fold and re-rolled the 47-ft. length. These two rolls are then pulled across the roof at each end, giving ample length to reach from ground level on one side to ground level on the other side, being approximately 44-ft., and leaving about a foot or more on each side to be cut off after completion of the covering process. I use a hand stapling gun to secure the plastic at each end and nail a 1"x2"x14' lath to secure the ends, then start unrolling towards the center, placing a 1"x2"x14' lath about every 30 inches to secure the plastic as I unroll it, nailing the laths to the 1"x4" strips. Lap



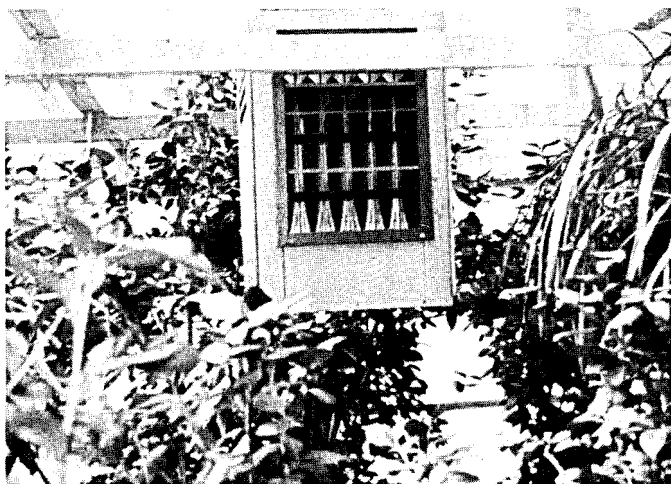
Front of Shaughnessy Greenhouse



Rear of Shaughnessy Greenhouse

the ends at the center and secure with laths. Since I have the wood pickets on the sides, only about two laths on each side are needed, running the entire length of the building, to secure the plastic on each side. The 6-ft. piece removed from the roll at the start is ample to cover the gable ends.

A 125,000 BTU gas heater is installed at one end of the building, about six feet high, vented outside and with a thermostat located near the center of the building. It is set to come on at 38 degrees. It is removed and stored before the cover is removed each spring. I cover the building about the first of December, depending on the weather predictions in this area (Port Arthur-Groves) and rip it off about April 1st. I use new plastic each year with the exception of the framed ends.



The Gas Heater About Six Feet Above Ground

I started out with 8 rows of 2- and 3-year grafts placed in the ground about five feet apart, running the length of the building. But I have long since had to do some re-shuffling of the plants due to growth, moving some plants outside and replacing with smaller plants. I try and keep them pruned beneath the joists to start the growing season.

I have found that this type of greenhouse lets me grow outside, grow in the ground and grow protected. I still have many plants growing in the ground outside with no protection from cold, wind and rain and they afford me many nice blooms, but if they do freeze or are damaged by wind and rain, I still have blooms in the greenhouse.

This report on my greenhouse is submitted with the hope that it will be of some benefit to other camellia growers with problems similar to mine.

E. A. SWIATEK (Lt. Col. ret.)
Fort Walton Beach, Fla.

Camelot I = 16' x 32'; 13' high in middle; built in 1970.

Camelot II = 16' x 35½' x 13' high in middle; built in 1971.

Both are covered permanently with chicken wire.

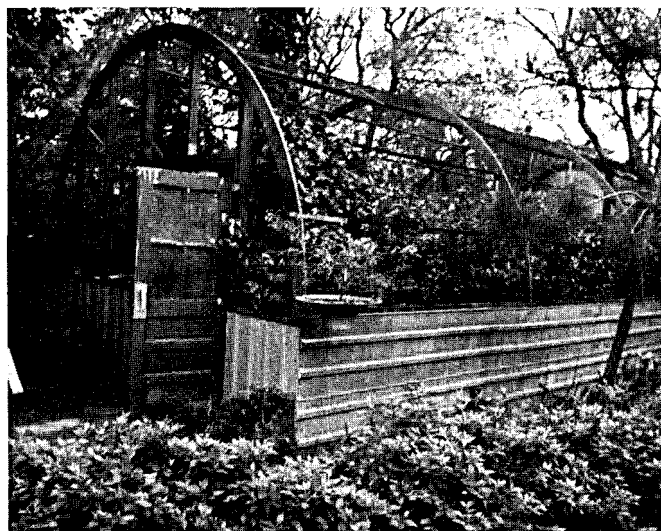
About the last of October to the end of March a covering of 6 mil Visqueen is fastened every 18" with telephone installation wire to keep the wind from dislodging the condensation of moisture on the inside of the plastic covering.

There are 300 camellias—container grown in each greenhouse. Containers range from No. 2 cans to 30 gal. oil drums cut in half.

During the time the plastic covering is off, plants are watered with automatic sprinkler. We use a 5,000 BTU catalytic system—two in each greenhouse.

I like this set up and have the materials but not the space on our home property for another greenhouse of larger dimensions. A plastic covered shelter is used for grafts and other plant propagation.

The arches were obtained from Air Force surplus, S-80 type shelters. Instead of resting on the ground railroad ties were used to raise the sides.



ADDENDUM

There is virtually nothing I can add to the foregoing cultural practices and requirements of growing camellias in a greenhouse as given by these successful growers from many regions. However, I will relate a little-money saving thing we did that seems to have been very practical.

Two years ago when the energy crisis appeared and TVA rates went soaring (we heat our glass and fiberglass greenhouse with electricity), we lined the entire structure, sides and top, with polyethylene. This was no small task but in the ensuing two winters (and the plastic is still good) our electric bill was greatly reduced from previous winters. In addition to combating heat loss, the humidity remained higher, less watering was needed and, most of all, we had better flowers.

E.W.C.

In Memoriam

Ebon Carl Tourje

Ebon Carl Tourje, a Fellow of The American Camellia Society since 1960, died on May 15, 1975. At a private family service at the graveside, he was buried on May 19, 1975 at Forest Lawn Cemetery, Glendale, California. He had been a member of the ACS since 1950.

His legacies to camellia growers include his keen interest in camellias following his retirement from the practice of law in Chicago. He was active almost from the start in the Southern California Camellia Society and he authored many articles on camellias; he served as the first secretary and subsequently chairman of the Camellia Garden Committee on the famous Huntington Botanical Gardens, San Marino, California. He was the driving force and the Editor for that scholarly book on camellias *Camellia Culture* published in 1958 and now out of print. He will long be remembered by camellia growers who have been growing that lovely interspecific camellia hybrid 'CARL TOURJE'.

In informing us of this sad news, his son Peter S. Tourje wrote, "Dad cherished the memories of the many friendships and experiences enjoyed as a result of his association with The American Camellia Society." We send our heartfelt prayers and condolences to the family of this beloved camellia gentleman.

Mrs. W. J. McCoach

Mrs. W. J. McCoach of Atlanta, Georgia died on May 7, 1975. She and her husband, who survives her, have long grown beautiful camellias and have been active in their local society in Atlanta. They have been supportive members of the ACS since 1959 and have been Century Club members since its origin in 1970. We join her many friends in extending our sincere sympathy to Mr. McCoach and members of her family circle.



WHERE WE WILL HAVE OUR BARBEQUE

The live oak tree is a majestic, year-round sentinel of lawns and landscape at Orton Plantation Gardens located on the Cape Fear River near Wilmington. Camellias, azaleas, and other trees and shrubs abound here all year long. (Photo is Courtesy of Orton Plantation Gardens)

Captain John F. Kettler

Mobile's national reputation as a city of great floral beauty owes much to the hard work of people such as John F. Kettler, a retired Coast Guard officer, who died on March 17, 1975. He was an organizer and former President of the Mobile Men's Camellia Club. He will be sadly missed in that beautiful City of Flowers. We join his many friends in deeply mourning his death and extend our sympathy to Mrs. Kettler and other members of his family.

Dr. C. C. Young

Dr. C. C. Young of Nacogdoches, Texas passed away on March 30, 1975. In the last several years he and Mrs. Young have been ardent camellia enthusiasts and members of the ACS since 1965. He was active at both state and local levels as well. When he was President of The Texas Camellia Society a few years ago he obtained over 100 new members in one year. He had agreed to be the chairman for this year's fall meeting of the Texas Camellia Society when it will host the Gulf Coast Camellia Society. Our sincerest sympathy is extended to Mrs. Young, his son John, his daughter Mrs. Eli Pool and four grandchildren all of whom live in Nacogdoches.

Mrs. Harold Cawood

Mrs. Harold Cawood, Minta as she was known to her countless number of camellia friends, died on July 5th after a long illness. She will be missed greatly by these camellia friends all along the "camellia trail" as she and Harold have gone to many camellia shows each year. Our heartfelt sympathy

goes to Harold who survives this most courageous lady. He resides in Americus, Georgia.

Mrs. Holden S. (Lila) Naff

Mrs. Holden S. Naff died on July 1st. All camellia lovers will certainly long remember this lovely lady for her active life in Birmingham, which included being Fashion Editor and Artist for *The Birmingham News*, and for the lovely camellia 'LILA NAFF' which her husband named for her. She is survived by her husband who lives in Birmingham, a son H. P. Hillhouse, Jr. of Fort Myers, Fla., and a daughter, Mrs. Florence H. Hoke, Selma, Ala.

—ACS—

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(Continued from page 26)

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AMERICAN CAMELLIA SOCIETY TWENTY-SIXTH ANNUAL FALL MEETING

November 13, 14, 15, 1975
Wilmington, North Carolina

November 13—Thursday Registration beginning 10 AM
 Committee Meetings 1 PM
 ACS Governing Board 2 PM
 Board of Trustees of Endowment Fund Meets 4 PM
 Hospitality Room Parlor No. 316 Open to greet early arrivals
 Dinner on your own

November 14—Friday Registration Continues
 Talk on Camellia Petal Blight 0930 AM in Hilton Ballroom by R. K. Jones, Extension Associate Professor, Plant Pathology, North Carolina State University
 Bus leaves Hilton for Orton Plantation 1100 AM where Barbeque Luncheon will be served.
 Return to Hilton. Hospitality Room 316 opens.
 Hospitality Hour, Hilton Ballroom 6:30 PM
 Dinner on your own

November 15—Saturday Busses leave Hilton for sightseeing 9:30 AM tour through Old Wilmington Historic District, with a stop for refreshments at Latimer House, Headquarters of Lower Cape Fear Historical Society. On to Airlie Gardens and Wrightsville Beach.
 Board Members and Wives attend Judges 12:00 Noon Luncheon, Hilton Ballroom. Judging of Camellia Show follows.
 Camellia Show Hilton Hotel 3:30 PM
 Social Hour, Hilton Ballroom Foyer 6:30 PM
 Banquet and General Meeting in Hilton Ballroom 8:00 PM

November 16—Sunday Camellia Show Open to Public 12:00 Noon to 6:00 PM

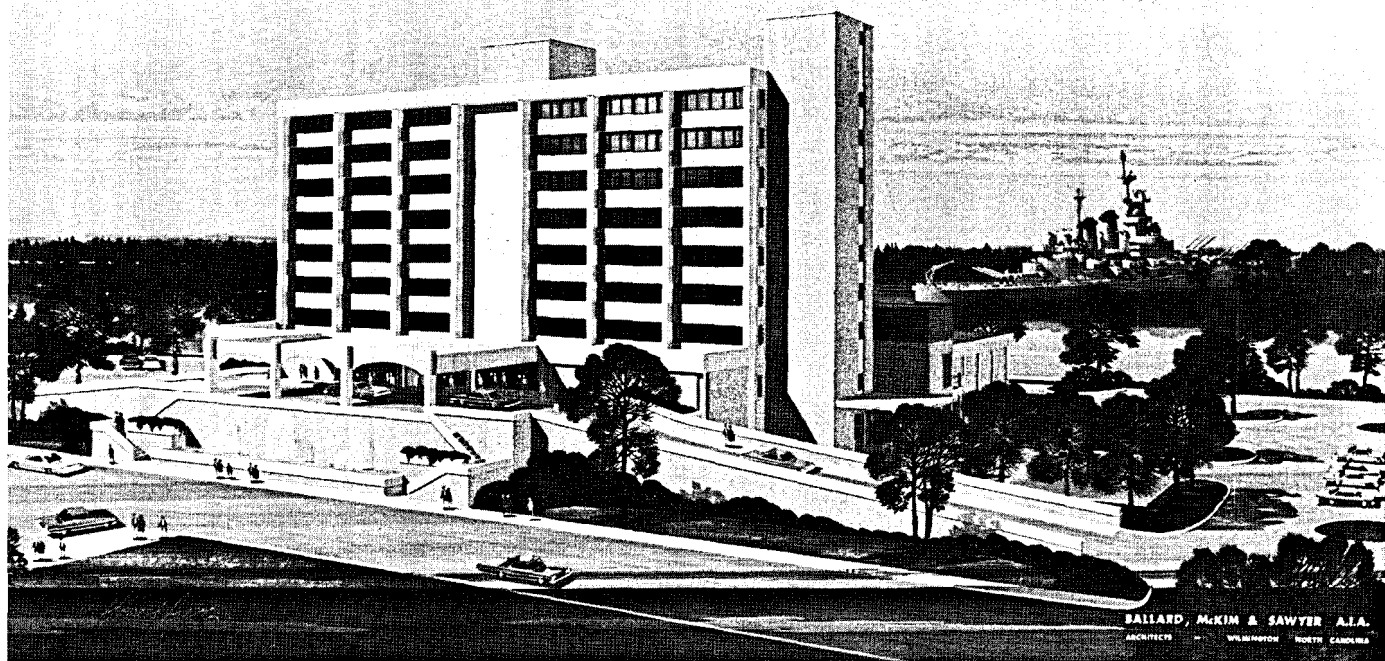
REGISTRATION FEE FOR ENTIRE PROGRAM IS \$30.00 Payable at Hilton Hotel Lobby at time of Registration. Make your Hotel Reservations prior to October 22, 1975. Convention Chairman is Henry B. Rehder, Box 3166, Wilmington, N. C. 28401. Co-Chairman is William S. Howell, Route 3, Box 211, Wilmington, N. C. 28401.

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AMERICAN CAMELLIA SOCIETY ANNUAL FALL MEETING

Name _____
(Please Print)

Address _____

City _____ State _____ Zip Code _____

Arrival Date _____ Hour * _____ P. M.

Departure Date _____ Hour _____ P. M.

Please reserve accommodations for: November 13-16, 1975.

SINGLES—\$18.00 DOUBLES—\$22.00 TWIN—\$24.00

* Please indicate time of arrival and flight number if you wish transportation from airport.

RESERVATIONS MUST BE RECEIVED not later than 3 weeks (October 22) prior to opening date of convention and will be held only until time indicated above. In order to guarantee late arrivals, an advance deposit or company Gtd. is required.

A Friend of Mine

JAY BIRD

We occasionally hear of camellia enthusiasts in California or the south being forced to abandon their plants and move to a colder climate due to business or other requirements. We recently heard from a greenhouse grower in Chicago who is moving to Central Florida, and taking his prize camellias with him. This is a switch, and good news!

Several comments have been received in response to our topic in an earlier column on the use of drainage material in the bottom of containers. We are indebted to Cecil Blumenthal of Australia for the following observations on this practice, and the accompanying suggestions:

"Some years ago many of the local camellia growers became suspicious of the efficacy of drainage material in their pots and tubs. Investigation showed that the soil mix to drainage

material "barrier" offered much the same resistance to proper drainage that the soil to air barrier caused. This finding, coupled with the decrease in space in the pot for soil mix, due to the space taken up by the drainage material, led many camellia hobbyists and specialist nurserymen to abandon the use of such material entirely.

Also contributing to the change in methods was the observation that the roots tend to congregate in a thick mat in the drainage material, because of the superior aeration. This condition makes planting out and repotting difficult; and the retention of the material in the root system, particularly very porous material such as coke, is a common cause of root rot due to water-logging around the particles of drainage material.

Having noted the advantages of

good aeration, we turned to the use of lighter and better aerated soil mixes, usually without any soil component at all. It is becoming common practice here to use the locally available sedge peat alone as a growing medium for Camellias in containers. The imported German and Irish peats are also used as a basis for a soil mix, often with only the addition of fine sand. Neither of these materials contain the clay particles, present in most natural soils, that cause the problems in containers when the particles leach to the bottom and impede the drainage.

Climate, no doubt, influences cultural practices. Perhaps one should say that such-and-such works for me, but something else does not!

Many thanks, Cecil! Quite a few of us will think twice before we place 2" of pine bark or other material in our containers again.

An English friend of ours attended the International Camellia Society meeting in London April 15, 1975,

Tidewater Camellia Club

WELCOMES

American Camellia Society Twenty Sixth Annual Fall Meeting

THURSDAY NOVEMBER 13th-SATURDAY NOVEMBER 15th

Wilmington North Carolina

FEATURING OUR FAMOUS HOSPITALITY ROOM 316
WILMINGTON HILTON AND OUR FALL CAMELLIA SHOW

and was quite impressed with the camellia bloom exhibits forwarded to the accompanying show by the Camellia Society of the Potomac Valley and the Northern California Camellia Research Committee. The blooms were in very good condition, and many of the varieties had not previously been seen in England. Of particular interest to our friend were a fragrant, deep pink, semi-double seedling marked DY(2) or D4(2) in the California display, and 'ESTELLE LINDSLEY' in the Potomac exhibit. Our commendations to the 2 groups for their fine international gestures.

A fellow we know has a dog that delights in picking up fallen camellia blooms in his mouth and depositing them in a pile on the back porch. Another friend says "Shucks, that's nothing, I have a dog that likes to munch on ice cubes. He knows when highball time is each afternoon, and follows me when I walk around in the garden, trying to mooch a handout." Which reminds me, when you lose your dog it's a doggone situation. Now, how did that get in here?

We need more contributions. New and interesting short topics as well as comments on published topics or items, will be appreciated. Forward to Jay W. Ellis, P. O. Box 888, Keystone Heights, Florida 32656.

—ACS—

Special Gifts

Mr. and Mrs. Carroll T. Moon: 23 American Camellia Yearbooks and plants for the garden

Mr. Milton H. Brown: Royalty on article for *Japanese Garden Life*

Dr. and Mrs. Daniel E. Nathan: Contribution in Honor of the J. S. Howard's 50th wedding anniversary

Mr. and Mrs. Milton H. Brown: Contribution in Honor of the J. S. Howard's 50th wedding anniversary

Dr. Fred Lee: Contribution to ACS in lieu of sending Christmas cards to camellia friends

Mrs. Milton H. Brown: Program Quitman Garden Club

Dr. Robert L. Nix: Contribution for cover picture, *May Journal*

Mrs. R. A. Bedgood: 22 American Camellia Yearbooks

commercial growers

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Terrazole soil fungicide controls Pythium and Phytophthora problems such as damping-off and molds. It controls cottony blight, grease spot and damping-off from most grasses. It controls Pythium-caused stem rots and damping-off in bedding plants, herbaceous, woody and tropical foliage plants.

protects: Lawns—

Cottony Blight
Grease Spot
Damping-off

Bedding plants—
(Ageratum, Aster, Carnation,
Dahlia, Pansy, Petunia, etc.)

Pythium-caused Stem Rot
Damping-Off

Tropical foliage plants—
(Aglaonema, Anthurium,
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Evergreen, Philodendron
SPP, etc.)

Pythium-caused Stem Rot
Damping-Off

Herbaceous and woody plants—
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Poinsettia)

Pythium-caused Rot
Damping-Off

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protects: Lawn grasses—

Brown Patch

Nursery Tree Seedlings—

Damping-off

Azaleas and Camellia—

Root Rot

Bedding Plants—

Flower Blight

(African Violets, Carnations,
Geraniums, Chrysanthemums, etc.)

Stem Rot

Bulbs—

Crown Rot

(Iris, Hyacinth, Tulips, etc.)

Black Rot

Easter Lily—

Root Rot

Roses—

Botrytis

Storage Rot

Write for complete information

CJ-875

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and Terrazole for ornamentals.



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State _____ Zip _____

Show Reports

CONCORD, CALIFORNIA, March 8-9, 1975

Sponsor: Northern California Camellia Society
 Best large or v. large Japonica runner-up
 'ELEGANS SUPREME' won by A. Maggiora
 Best medium Japonica 'MARGARET DAVIS'
 won by Doug Batt
 Best medium Japonica runner-up 'ALTA
 GAVIN' won by H. C. Rambath
 Best Boutonniere small 'KEWPIE DOLL' won
 by Donald Lesmeister
 Best Boutonniere miniature 'LITTLE UN' won
 by Anthony Pinheiro
 Best Hybrid Reticulata 'ROYALTY' won by
 Mrs. Charles O'Malley
 Sweepstakes won by Charles A. Boynton
 Sweepstakes runner-up won by Ken Hallstone

YOUTH CLASS — OTHER THAN JAPONICA:

'AZTEC' won by Tracy Breuner
 Youth Class best large or v. large Japonica
 'ELEGANS SPLENDOR' won by James E.
 Scott
 Youth Class best Hybrid 'ELSIE JURY' won by
 Donald Lesmeister
 Youth Class Japonica 'MARGARET DAVIS' won
 by Darren Smith

Number of ACS memberships sold: 0

MODESTO, CALIFORNIA, March 15-16, 1975

Sponsor: Modesto Camellia Society
 Number Blooms Displayed: 6,000. Attendance:
 6,000. Admission: Free

Awards: Outstanding Bloom Certificates:

Best Japonica:
 Large or very Large 'ELEGANS SUPREME' won
 by Harlan Smith Family
 Runner-up large or very large 'ELEGANS
 SPLENDOR' won by Mrs. Sal Davi
 Medium 'JUANITA SMITH' won by Dr. and
 Mrs. Van McKee
 Runner-up medium 'ANNETTE GEHRY' won
 by Mr. and Mrs. Jack Woo
 Small 'LITTLE MAN FORMAL' won by Mr. and
 Mrs. Eugene Busse

Best Reticulata or Reticulata Hybrid:
 Won by Mr. and Mrs. William Stewart for
 'TALI QUEEN'
 Runner-up 'FRANCIE L' won by Dr. and Mrs.
 Fred Rankin

Best Hybrid (Other than Retic. parentage)
 Won by Mr. and Mrs. James Grant for
 'ELSIE JURY'

Best Miniature:
 Won by Mr. and Mrs. Fred V. Hamilton for
 'WALKER'S PINK'
 Runner-up 'IMP' won by Mr. and Mrs. An-
 thony F. Pinheiro

Best seedling large or medium won by Dr. Walter
 Homeyer
 Best seedling small or miniature won by Mr. and
 Mrs. Robert Ehrhart

Best Junior:
 Miniature 'WILAMINA' won by Sandy Chilcote
 Japonica 'TOMORROW' won by Kathleen Gonos
 Hybrid 'E. G. WATERHOUSE' won by Kathleen
 Gonos

Reticulata 'MOUTANCH' won by Weilin Wang
 ACS Gold Certificate Won by Mr. and Mrs.
 Charles Boynton

ACS Silver Certificate: Won by Dr. and Mrs.
 Fred L. Rankin

ACS Most Outstanding Arrangement Certificate:
 Won by Mrs. Grace Morisetti

Number of ACS memberships sold: 0

SANTA ROSA, CALIFORNIA, March 22-23, 1975

Sponsor: Sonoma County Camellia Society
 Japonica over 5 1/2 inches 'TOMORROW PARK HILL'
 won by Mr. E. F. Achterberg
 Runner-up 'LEANNE'S TOMORROW' won by Mr. and
 Mrs. Don Hertmeister

Japonica 4 1/2-5 1/2 inches 'MISS CHARLESTON VAR.'
 won by Mr. and Mrs. Al Taylor
 Runner-up 'JUNE STEWART SUPREME' won by Mr.
 and Mrs. Pete Grosso

Japonica 3 1/2-4 1/2 inches 'IN THE PINK' won by
 James Grant
 Runner-up 'NUCCIO'S GEM' won by Mr. and Mrs.
 Harry Pitts

Japonica 2 1/2-3 1/2 inches 'OLE' won by Mr. and
 Mrs. Neely Downing
 Runner-up 'KITTY' won by Mr. and Mrs. Ted
 Smith

Japonica under 2 1/2 inches 'FRANCES COUNCIL'
 won by Mr. and Mrs. Ron Kellogg
 Runner-up 'JOHNNY'S FOLLY' won by Mr. and
 Mrs. Doug Batt

Reticulata Hybrid over 6 inches 'CORNELIAN' won
 by Mrs. Marlo Bergemini
 Runner-up 'HOWARD ASPER' won by James Randall

Reticulata Hybrid under 6 inches 'FRANCIE L' won
 by Dr. and Mrs. Fred Rankin
 Runner-up 'DR. LOUIS POLIZZI' won by James
 Randall

Hybrid over 4 inches 'ELSIE JURY' won by Mr.
 and Mrs. John Herndon
 Runner-up 'DOROTHY JAMES' won by Dr. and Mrs.
 Fred Heitman

Sweepstakes won by Mr. and Mrs. Charles Boynton
 Sweepstakes runner-up won by Dr. and Mrs. Fred
 Rankin

Japonica seedling won by David L. Feathers
 Retic Hybrid seedling won by Ted Aftler
 Hybrid seedling won by Mr. and Mrs. Robert
 Ehrhart

Number of ACS memberships sold: 0

WASHINGTON, D. C., April 19-20, 1975
 (21st Annual)

Sponsor: Camellia Society of the Potomac Valley
 Number Blooms Displayed: 1,243. Attendance:
 1,000. Admission: Free

Awards: Outstanding Bloom Certificates awarded:
 Japonica in open 'MAGNOLIAFLORIA' won by Mr.
 O. Preston Davis

Runner-up 'VILLE DE NANTES' won by Mr. and
 Mrs. Philip Werner Amram
 Japonica under glass 'NUCCIO'S GEN' won by Mrs.
 Mayo M. FitzHugh

Runner-up 'SAWADA'S DREAM' won by Mrs. Mayo
 M. FitzHugh
 Hybrid (With other than Reticulata parentage)
 In open 'BONNIE MARIE' won by Mr. and Mrs.
 Douglas Deane Hall

Runner-up 'BRIGADOON' won by Dr. and Mrs.
 Arthur A. Maryott
 ACS Gold Certificates:

In open won by Mr. and Mrs. Abram H.
 Cannon
 Under glass won by Dr. and Mrs. Arthur A.
 Maryott

ACS Silver Certificates:
 In open won by Mr. and Mrs. Douglas Deane
 Hall

Under glass won by Mrs. Mayo M. FitzHugh
 ACS Outstanding Arrangement Certificates won by
 Mrs. Henley L. Guild

Number of ACS memberships sold: Seven (7)

MONROE, LOUISIANA, February 15-16, 1975
 (12th Annual)

Sponsor: Northeast Louisiana Camellia Club
 Number Blooms Displayed: 900. Attendance: 1,500.
 Awards: Outstanding Bloom Certificates:

Japonica Camellias grown under glass:
 Large to extra large 'REG RAGLAND VAR.'
 won by Mr. Otto Klick
 Medium 'PINK DIDDY' won by Mr. Bill
 Tompkins

Small 'PINKIE' won by Mr. Bill Tompkins
 Miniature 'MANSIZE' won by Mr. Bill Tomp-
 kins

Japonica Camellias grown unprotected:
 Large 'CHRISTMAS BEAUTY' won by Mr. G. F.
 Abendroth

Medium 'BETTY FOY SANDERS' won by Mr.
 and Mrs. J. C. Crawford
 Small 'KITTY' won by Mr. G. F. Abendroth
 Miniature 'FUKURIN-IKKYU' won by Mr.
 Thomas H. Perkins

Hybrid with Reticulata Parentage 'LILA NAFF'
 won by Mr. Otto Klick

Hybrid without Reticulata parentage 'CHARLEAN
 VAR.' won by Mr. O. E. McAllister
 Best white grown protected 'CHARLIE BETTES' won
 by Mr. Otto Klick

Best white bloom grown unprotected 'FIRST LADY'
 won by Mr. F. F. Becker, II
 Number of ACS memberships sold: None

BALTIMORE, MARYLAND, April 20, 1975

(18th Annual)
 Sponsor: Pioneer Camellia Society of Maryland
 Number of Blooms Displayed: 730. Attendance:
 565. Admission: Free

Awards: Outstanding Blooms Certificates Awarded:
 Japonica in open 'DESTINY' won by Mr. and
 Mrs. Douglas D. Hall

Runner-up 'COLONEL FIREY' won by Dr. and
 Mrs. Joseph E. Brumback
 Japonica under glass 'SWAN LAKE' won by
 Dr. Chiun Ling

Runner-up 'NUCCIO'S GEM' won by Dr. Chiun
 Ling

ACS Gold Certificates:
 In open won by Dr. and Mrs. Arthur A.
 Maryott

Under glass won by Mr. and Mrs. William
 Wiesand

ACS Silver Certificates:
 In open won by Mr. and Mrs. John A.
 Pumphrey

Under glass won by Dr. Chiun Ling
 ACS Outstanding Arrangement Certificate won by
 Mrs. Burnett Pettit

Number of ACS memberships sold: None

CHARLOTTE, NORTH CAROLINA, February
 22-23, 1975

Sponsor: Men's Camellia Club
 Number Blooms Displayed: 2,500. Attendance:
 7,000

Awards: Outstanding Bloom Certificates:

Japonica:
 In open 'MARY ALICE COX' won by Richard
 Hancel

Runner-up 'ELEGANS SUPREME' won by H. K.
 Snell

Under glass 2 1/2-5 inches 'MARGARET DAVIS'
 won by Fred Hahn

Runner-up 'PEARL MAXWELL' won by Fred
 Hahn

Under glass over 5 inches 'HELEN BOWER'
 won by Frontis Johnston

Runner-up 'ELEGANS SUPREME' won by Robert
 Edge

Under glass miniature 'MAN SIZE' won by
 Harry Watson

Runner-up 'SNOW NYMPH' won by Harry
 Watson

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Show Dates

Reticulata (Includes Hybrids with Reticulata parentage)
 Under glass over 5 inches 'HOWARD ASPER' won by Marshall Rhyne
 Runner-up 'PHAROAH' won by Marshall Rhyne
 Hybrid (with other than Reticulata parentage)
 Under glass 'CHARLEAN VAR.' won by Lester M. Allen
 Under glass 2½-5 inches under glass won by D. G. Elliott
 Runner-up 'WATER LILY' won by J. P. Mason
 Best White over 2½ inches 'SEAFOAM' won by Olin Owen
 ACS Gold Certificates: Under glass won by D. G. Elliott
 ACS Silver Certificates: Under glass won by Olin Owen
 ACS Provisional Highly Commended Seedling Certificate: Reticulata (Includes Hybrids with Reticulata Parentage) Certificate won by Olin Owen for No. 19 'KING TUT' originated by W. E. Sellers
 Number of ACS memberships sold: None

WHITEVILLE, NORTH CAROLINA, February 15, 1975
 Sponsor: Whiteville Camellia Society
 Number Blooms Displayed: 1,650. Attendance: 405.
 Awards: Outstanding Blooms:
 Japonica in open 'FUNNY FACE BETTY' won by Mr. and Mrs. Bill Howell
 Japonica under glass 'GUILIO NUCCIO VAR.' won by J. O. Jackson
 Reticulata (Includes Hybrids with Reticulata parentage)
 In open 'FLUTED ORCHID' won by C. C. Mason
 Under glass 'HOWARD ASPER' won by J. O. Jackson
 Hybrid (With other than Reticulata parentage)
 Under glass 'CHARLEAN' won by R. R. McVey
 ACS Gold Certificates:
 In open won by A. B. Rhodes
 Under glass won by Annabelle and Lew Fetterman
 ACS Silver Certificates:
 In open won by Bill and Molly Howell
 Under glass won by R. R. McVey
 Number of ACS memberships sold: None

PORTLAND, OREGON, April 4-5, 1975
 (34th Annual)
 Sponsor: Oregon Camellia Society
 Number Blooms Displayed: 500. Attendance: 1,600.
 Most Outstanding Bloom of Show 'TOMORROW'S DAWN' won by Mr. and Mrs. Ab Goins
 Best japonica in open 'CARTER'S SUNBURST' won by Oscar Tinkle
 Runner-up best japonica in open 'MASTERPIECE' won by Oscar Tinkle
 Best japonica under glass 'TOMORROW'S DAWN' won by Mr. and Mrs. Ab Goins
 Runner-up 'BETTY SHEFFIELD SUPREME' won by Mr. and Mrs. Ab Goins
 Best Reticulata under glass 'VALENTINE DAY' won by Mr. and Mrs. Ab Goins
 Runner-up 'MANDALAY QUEEN' won by Mr. and Mrs. Ab Goins
 Best Hybrid in open 'BRIGADOON' won by Ed Lewis
 Runner-up 'ANGEL WINGS' won by Ed Lewis
 Best Hybrid under glass 'ELSIE JURY' won by Russel Gainer
 Best miniature 'MAN SIZE' won by Russel Gainer
 ACS Gold Certificate: Under glass won by Russel Gainer
 ACS Silver Certificate: Under glass won by Oscar Tinkle
 ACS Outstanding Arrangement Certificates: Won by Gertrude Green
 Creativity won by Sherman Green
 Number of ACS memberships sold: two (2)

AIKEN, SOUTH CAROLINA, January 25-26, 1975
 (21st Annual)
 Sponsor: Aiken Camellia Club
 Number Blooms Displayed: 1,808. Attendance: 5,000-6,000
 Most Outstanding Bloom: (Best-In-Show) 'ELEGANS SUPREME' won by Mr. and Mrs. D. G. Elliott
 Outstanding Bloom Certificates Awarded:
 Japonica:
 In open under 4½ inches 'DR. TINSLEY' won by Frank Watters
 In open over 4½ inches 'HELEN BOWER VAR.' won by J. M. Jones
 Under glass under 4½ inches 'SAWADA'S DREAM' won by C. T. Freeman
 Under glass over 4½ inches 'PINK DIDDY' won by John Gaver
 Best white 'SNOWMAN' won by James V. Smith
 Best miniature 'TOM THUMB' won by John A. Tyler, Jr.
 Best bloom of junior Exhibitor: 'VALENTINE DAY' won by Miss Lynn Herndon
 Best Seedling won by S. H. Hackney
 (Please turn to page 42)

Place, Location and Sponsor

Date

Columbia, South Carolina, Mid-Carolina Camellia Society October 18-19, 1975
 Greenwood, South Carolina, Northside Junior High School
 West Carolina Camellia Society October 25-26, 1975
 Washington, D. C., U. S. National Arboretum, Camellia Society
 of the Potomac Valley November 1-2, 1975
 Savannah, Georgia, Men's Garden Club of Savannah November 1-2, 1975
 Fort Valley, Georgia, Massee Lane, Middle Georgia Camellia Society .. November 8-9, 1975
 Shreveport, Louisiana, Pierremont Mall on Line Avenue, Men's
 Camellia Club of Shreveport November 8-9, 1975
 Valdosta, Georgia, The First State Bank, Valdosta Camellia Society .. November 15-16, 1975
 Wilmington, N. C. Wilmington Hilton Hotel, Tidewater Camellia
 Society (In conjunction with ACS 26th Annual Fall Meeting) .. November 15-16, 1975
 Charleston, S. C., First Federal Savings & Loan Association,
 34 Broad Street, Coastal Carolina Camellia Society November 22-23, 1975
 Gulfport, Mississippi, Gulfport Men's Camellia Society November 22-23, 1975
 Natchez, Miss., Education Bldg., First Presbyterian Church,
 Natchez Camellia Club November 22-23, 1975
 Alexandria, La., Alexandria Mall,
 Twin City Camellia Culture Club November 29-30, 1975
 New Orleans, Louisiana, Whitney National Bank, Southern
 Camellia Society November 29-30, 1975
 Brookhaven, Mississippi, Main Office of Brookhaven Bank &
 Trust Company, Brookhaven Camellia Society December 6-7, 1975
 Jacksonville, Florida, Regency Square, Camellia Society of
 North Florida December 6-7, 1975
 Port Arthur, Texas, Mingle Motor Company, Greater Port Arthur
 Camellia Society December 6-7, 1975
 Arcadia, California, Lecture Room, Los Angeles State and County
 Arboretum, Southern California Camellia Council December 13-14, 1975
 Houston, Texas, Memorial City Shopping Center Mall,
 Katy Freeway and Gessner Road, Houston Camellia Society December 13-14, 1975
 Moss Point, Mississippi, Moss Point Men's Camellia Club December 13-14, 1975
 Slidell, Louisiana, Municipal Auditorium, Ozone Camellia Club .. December 13-14, 1975
 Conroe, Texas, Coushatta Camellia Society January 3-4, 1976
 Panama City, Florida, Camellia Society of Panama City January 3-4, 1976
 Baton Rouge, Louisiana, Baton Rouge Camellia Society January 10-11, 1976
 Orlando, Florida, American Federal Savings & Loan Association
 Building, Downtown Orlando, Camellia Society of Central Florida .. January 10-11, 1976
 Pensacola, Florida, Pensacola Men's Camellia Club, Inc. January 10-11, 1976
 Ruston, Louisiana, Ruston Men's Camellia Society January 10-11, 1976
 Beaufort, South Carolina, Council of Beaufort Garden Clubs January 17-18, 1976
 Beaumont, Texas, Beaumont State Bank, Southeast Texas Camellia
 Society January 17-18, 1976
 Tallahassee, Florida, Tallahassee Federal Savings & Loan
 Association, 440 North Monroe Street, Tallahassee Camelia Club .. January 17-18, 1976
 Charleston, S. C., Northwoods Mall,
 Coastal Carolina Camellia Society January 24-25, 1976
 Liberty, Texas, City Hall, Atascosito Camellia Club January 24-25, 1976
 New Orleans, Louisiana, Camellia Club of New Orleans January 24-25, 1976
 Augusta, Georgia, Augusta Garden Center, 598 Telfair Street, Augusta
 Camellia Society & Augusta Council of Garden Clubs, Inc. and in
 cooperation with the Georgia Railroad Bank & Trust January 31-February 1, 1976
 Shreveport, Louisiana, State Exhibit Building on the state Fair-
 grounds, Men's Camellia Club of Shreveport January 31-February 1, 1976
 Tuscaloosa, Alabama, Tuscaloosa Men's Camellia Club January 31-February 1, 1976
 Georgetown, South Carolina, Council of Garden Clubs February 7-8, 1976
 Jackson, Mississippi, Lobby of the First National Bank, Jackson
 Camellia Society February 7-8, 1976

Savannah, Georgia, Men's Garden Club of Savannah	February 7-8, 1976
Thomasville, Ga., Garden Center, Thomasville Garden Clubs, Inc.	February 7-8, 1976
Tyler, Texas, Citizens First National Bank, Tyler Camellia Club	February 8, 1976
Memphis, Tenn., Goldsmiths Civic Garden Center, 750 Cherry Road, Memphis Camellia Society	February 14-15, 1976
Monroe, Louisiana, Northeast La. Camellia Club	February 14-15, 1976
Fort Worth, Texas, Lobby, First National Bank, Fort Worth Camellia Society, Inc.	February 15, 1976
Atlanta, Georgia, Phipps Plaza, North Ga. Camellia Society, Atlanta Camellia Society & Buckhead Lions Club	February 21-22, 1976
Dallas, Texas, Dallas Camellia Society	February 22, 1976
Charlotte, North Carolina, Men's Camellia Club of Charlotte	February 28-29, 1976
Chattanooga, Tennessee, Chattanooga Camellia Club	February 28-29, 1976
Whiteville, North Carolina, Waccamaw Academy, Whiteville Camellia Society	February 28-29, 1976
Fayetteville, North Carolina, Fayetteville Camellia Club	March 6-7, 1976
Nashville, Tennessee, Middle Tennessee Camellia Society (In conjunction with ACS 31st Annual Meeting)	March 6-7, 1976
Santa Rosa, California, Sonoma County Camellia Society	March 27-28, 1976
Washington, D. C., U. S. National Arboretum, Camellia Society of the Potomac Valley	April 17-18, 1976
Baltimore, Maryland, Cylburn Wildflower Preserve & Garden Center, 4915 Green Spring Avenue, Pioneer Camellia Society	April 18, 1976
Washington, D. C., U. S. National Arboretum, Camellia Society of the Potomac Valley	October 30-31, 1976
Gulfport, Mississippi, Gulfport Men's Camellia Society (In conjunction with ACS 27th Annual Fall Meeting)	November 20-21, 1976
Fayetteville, North Carolina, Fayetteville Camellia Club	March 5-6, 1977
Modesto, California, Camellia Society of Modesto (In conjunction with ACS 32nd Annual Meeting)	March 19-20, 1977
Washington, D. C., U. S. National Arboretum, Camellia Society of the Potomac Valley	April 16-17, 1977

Nomination and Election of Directors for the Atlantic Coast Territory

Nomination ballots will go out to all members of the ACS who live in the Atlantic Coast Territory during September. States which will be concerned with State Directors are: Georgia, South Carolina, North Carolina and Maryland—District of Columbia—Adjacent Virginia Counties and Virginia. Members residing therein will have a vote for nominating State Directors of their states and two Directors-at-Large. Those in Massachusetts, New Hampshire, Connecticut, New York, New Jersey, Pennsylvania and Delaware can vote to nominate two Directors-at-Large.

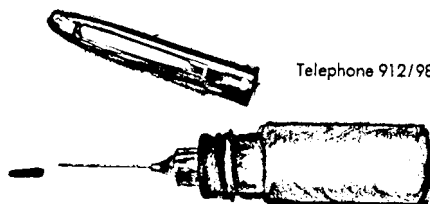
Incumbent Directors-at-Large for the Atlantic Coast Territory are Dr. Daniel E. Nathan of Fort Valley, Ga. and Thomas C. Evans of Aiken, S. C. Both are eligible for reelection.

Incumbent State Directors who are eligible for reelection are Paul A. Dahlen of South Carolina and Charles C. Mason of Virginia. The following State Directors will have completed two terms and are not eligible for reelection: G. Stuart Watson of Georgia, Henry B. Rehder of North Carolina and Douglas Deane Hall of Maryland—District of Columbia—Adjacent Virginia Counties. All of these State Directors are eligible to be nominated for Director-at-Large. Any member of the ACS other than those herein stated is eligible to be nominated for either State Director or Director-at-Large.

It is important to make your consideration early and mail in the post card which you will receive. Do not send in letters of nomination as these are not permitted under our Charter and By-Laws. At the time stated on your cards, the two highest candidates for each post will be asked if they desire to run and then cards for the actual election will be forthcoming in early winter. Successful candidates will take office as Directors at the Annual Meeting in Nashville, Tenn. in March 1976, and serve a three-year term.

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|---------------------------------|--------------------|----------|
| () "Gibbers" empty | Air mail 13c extra | @ \$1.50 |
| () "Gibbers" filled 8cc Gib | Air mail 26c extra | @ \$3.00 |
| () 6cc Regular Squeeze Bottle | Air mail 13c extra | @ \$1.50 |
| () 30cc Regular Squeeze Bottle | Air mail 52c extra | @ \$5.00 |
| () 60cc Regular Squeeze Bottle | Air mail 65c extra | @ \$9.00 |

Amount enclosed \$

NAME.....

ADDRESS.....

(Continued from page 40)

ACS Outstanding Arrangement certificate won by Mrs. H. G. Scott
Creativity won by Mrs. Benjamin Surasky and Mrs. E. Keller
Number of ACS Memberships sold: 0

CHATTANOOGA, TENNESSEE, February 22-23, 1975

Sponsor: Chattanooga Camellia Club
Number of Blooms Displayed: 1,000
Japonica under glass chem. treated 'TIFFANY' won by H. T. Brown
Runner-up 'GRANADA' won by L. E. Shealy
Best White 'IVORY TOWER' won by H. T. Brown
Best medium Japonica 'HARRIET BISBEE' won by George Abel
Best small Japonica 'GRACE ALBRITTON' won by Ralph Davidson
Best Miniature Japonica 'MINI PINK' won by G. E. Harrison
Reticulata under glass chem. treated 'FOUR WINDS' won by C. W. Lattin
Reticulata under glass chem. treated runner-up 'CRIMSON ROBE' won by Dr. Harry Moore
Hybrid (With other than Reticulata parentage) under glass chem. treated 'ANGEL WINGS' won by George Griffin
ACS Gold Certificate: Under glass chem. treated won by A. B. Cooper
ACS Silver Certificate: Under glass chem. treated won by H. T. Brown
Number of ACS memberships sold: One (1)

NORFOLK, VIRGINIA, March 22-23, 1975
(33rd Annual)

Sponsor: Virginia Camellia Society
Number Blooms Displayed: 723. Attendance: 2,478

Outstanding Bloom Certificates Awarded:
Japonica in open 'DONCKELARI' won by Mr. and Mrs. Alison J. Parsons
Runner-up 'BETTY SHEFFIELD SUPREME' won by Mrs. Dora Midjette
Japonica under glass 'GUEST STAR' won by Mr. and Mrs. Alison J. Parsons
Runner-up 'LOUISE HAIRSTON' won by Mrs. Charles F. Urquhart, Jr.

Reticulata (Includes Hybrids with Reticulata Parentage)
Under glass 'MOUCHANG' won by Mrs. Charles F. Urquhart, Jr.
Runner-up 'FRANCIE L' won by Mr. and Mrs. Eugene Worrell

Hybrid (With other than Reticulata parentage)
In open 'JULIA HAMITER' won by Mr. and Mrs. Samuel F. Thornton

ACS Gold Certificates:
In open won by Mr. and Mrs. C. C. Mason
Under glass won by Mrs. Charles F. Urquhart, Jr.

ACS Silver Certificates:
In open won by Mrs. M. K. Crockett, Sr.
Under glass won by Mr. and Mrs. Alison J. Parsons

Number of ACS memberships sold: Twenty-nine (29)

Project Once Inna Lifetime

'Project Oil

Project Oil'

Plans are going full steam ahead for "PROJECT OIL." There are still some vacancies in the Tour Group which will be held to a total of only forty (40). A finalized itinerary with more details will be included in the November issue; all of those who have presently "signed aboard" will be kept notified as to all information required. The finalized costs, etc. will also be forwarded to those fortunate ones who will be able to take this Once Inna Lifetime trip. A fair estimate as of now is that the trip, California to Australia to New Zealand to Fiji to California will be approximately \$2400.00. This includes all transport and sightseeing and is based on a per-person in twin-bed accommodation in first class hotels and specified meals. We have asked the Tour Agency to see about discount fares to and from San Francisco-Los Angeles from the home towns of our travelers.

A summary of the present itinerary follows: Thursday, July 29, 1976 depart San Francisco. Saturday July 31, arrive in Sydney. Thursday August 5, depart Sydney by coach to Canberra,

arriving the same day. Saturday, August 7 fly to Adelaide in the evening. Tuesday, August 10 fly to Mt. Gambier. Wednesday, August 11 to Melbourne by coach. Sunday, August 15 fly to Christchurch, New Zealand. Then visit Wanganui, Rotorua and Auckland. Saturday, August 12 fly to Fiji. (This might be changed to Tahiti and to leaving on Sunday in order to attend New Zealand Annual Meeting if it is on this weekend). Finally fly to Los Angeles on Tuesday August 24.

Our good friend in Australia, Eric Craig, is making plans for detailed visits to interesting places, gardens, the lovely Sydney Opera House, wine country, etc. He is also in contact with Neville Haydon and Owen Moore in New Zealand for "things to do and see" in that lovely country as well. We are also keeping in touch with them.

Keep in touch with us. We shall keep in touch with you. Anyone who has made a reservation and who for some reason or other must opt out, please let us know immediately so that the ones on the waiting list can then be accommodated.

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MINIATURES

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'DRYDEN VAR.'

'HAMILTON'S CHOICE'

'LITTLE 'UN'

'SUSIE'

'BIMBO'

'EVANGELINE'

'JEAN BARDOW'

'MELISSA'

'TAMMIA'

'BO-PEEP'

'FAIRY GARDEN'

'LITTLE BRAD'

'MINUTE'

'TINY TOT'

'COTTONTAIL'

'FRANCES COUNCILL'

'LITTLE SLAM VAR.'

'PETITE ROSINE'

'TUFFETT'

'DOMOTO'S BABY SLAM'

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Life Members in the ACS

Our drive for new Life Members and Patron Members of the ACS is gaining momentum. We hope it will continue so that we will reach our goal of 150 by December 31, 1975. Our total on June 7th was 3 Patron Members, 121 Life Members and 10 Fellows. The latest, since the May issue of the *Journal* are Mrs. Mayo FitzHugh, McLean, Virginia, a Patron Member; Payne H. Midyette, Tallahassee, Florida, a Life Member; Dr. and Mrs. Harry T. Moore, Jr., Nashville, Tenn., Joint Life Members; Dr. and Mrs. Daniel E. Nathan, Fort Valley, Ga., Joint Life Members; Mr. and Mrs. A. B. Cooper, Nashville, Tenn., Joint Life Members; Dr. and Mrs. Earl Beatty, Jr., Fort Valley, Ga., Joint Life Members; Mrs. Spencer C. Walden, Jr., Albany, Ga., Life Member.

Patron and Life Members by state are: Georgia 29, Florida 17, North Carolina 16, California 7, Tennessee 5, South Carolina 5, Alabama 5, Louisiana 4, Mississippi 4, Texas 4,

Virginia 3, Delaware 3, Oregon 2, New York 2, Washington 1. Overseas we have Life Members in: Japan 3, Australia 2, England 2, and Canada 1.

The breakdown by year of those Patron and Life Members and Fellows still active follows:

1945	6	1961	2
1946	9	1962	2
1947	2	1963	4
1948	2	1964	1
1949	2	1965	8
1950	4	1966	3
1951	7	1967	2
1952	3	1968	4
1953	2	1969	5
1954	4	1970	4
1955	3	1971	1
1956	7	1972	1
1957	9	1973	3
1958	3	1974	6
1959	5	1975	17
1960	0		

Won't you become a Life Member, a Joint Life Membership or a Patron? Please give this serious thought. When the Dues Statements go out

early this fall there will be a block for each of these memberships as well as Annual Member and Annual Joint Member. A Patron Membership is \$200.00. Life Member is \$150.00 and Joint Life Member is \$240.00

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Horticulturally Speaking

(Prepared by the Horticulture Committee)

Inasmuch as this issue of *The Camellia Journal* is predominantly concerned with greenhouse camellia culture, the Horticulture Committee will try to concentrate on autumn cultural practices for outdoor plants in this column. And, as usual, the subject will be approached from the standpoint of the less experienced grower.

"Gibbing" comes first to mind at this season. Let's suppose you have never heretofore done any gibbing. Why try it?

It will either prolong your flowering season by starting it earlier than usual, or it will give you an extra japonica flowering season in the fall in addition to the normal spring season. It will enable you to enjoy exhibiting in fall as well as spring shows. In many cases it will provide

larger, more spectacular blooms than usual. And, in experimenting to find what varieties produce the best results in your locality, you will experience the pride and pleasure of the researcher and scientist.

The first step is to obtain gibberellic acid, which is a natural plant hormone existing in some form and to some degree in most plant life. It was isolated in 1938 by Japanese pathologists. It causes cells to enlarge and to divide more rapidly than normal, so the flower becomes enlarged. It also affects the time of flowering, breaking the normal time cycle which is regulated by the span of daylight.

"Gib" is not readily available at your local store. Try getting some from a camellia growing neighbor who, incidentally, may be delighted

to use his own supply in giving you instruction in the art. Possibly the camellia club in your area buys it in bulk and distributes it to members; a year's membership fee is likely less than the cost of gib from other sources. Or, read the ads in *ACS Journals*, and order a supply from an advertiser. At the same time, acquire an applicator from the same source; or buy a syringe or eye dropper at the drug store. Now you are ready.

Gib works well on many varieties of camellia japonica and on some hybrids and retics. A friend may have a list of varieties known to respond well in your area; look it over; you can save time and trouble sticking to it. Otherwise, be an experimentalist—try every japonica and find out for yourself which responds best. Gib has

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- 'SAM ZERKOWSKY'—Large, soft pink Anemone center of Pink and White petaloids mixed with golden stamens. Rows of pink petals form a skirt of beauty. Mid-season, bushy, heavy bloomer. (See cover August 1975 *Camellia Journal*.) A Blue Ribbon Winner! Won Best Seedling Award 1972 Slidell Show.
3 Yr. Grafts—Budded—\$35.00 4 Yr. Grafts—Large, Budded—\$50.00
- 'JUDGE RICHARD HILL'—Large, rose red formal to rose form double to peony, mid-season Japonica. Also Variegated. (See January 1975 *Camellia Journal*.)
2 Yr. Grafts—\$20.00 (S. & Var.) 3 Yr. Grafts—\$25.00 (S. & Var.) Budded
- 'CAROLYN ADAMS'—Medium, soft pink formal double, long lasting beautiful Hybrid, not Reticulata cross, blooms mid-season. (See 1974 November *Camellia Journal*.)
2 Yr. Grafts—\$20.00 Budded 4 Yr. Grafts—\$35.00 All Budded
- 'DR. JAMES BROWN'—Large, Solid or Variegated rose red peony to anemone, to rose form double long lasting, mid-season Japonica. (See 1974 September *Camellia Journal*.)
3 Yr. Grafts—\$20.00 4 Yr. Grafts—\$25.00 6-8 Yr. Grafts—\$30.00
- 'TAMMIA'—Miniature Japonica. (November 1973 *Camellia Journal* Cover.) A Show Winner!
2 Yr. Grafts—\$20.00 3 Yr. Grafts—\$25.00 4 Yr. Grafts—\$30.00
- 'WYLMER POOL'—Large Japonica, white with pink parts, to solid pink formal to peony. Truly outstanding. (See January 1974 *Camellia Journal* Cover.) Mid-season.
2 Yr. Grafts—\$20.00 3 Yr. Grafts—\$25.00 Budded
- 'DOROTHY ZERKOWSKY'—Large Japonica, White with Pink, to all pink, formal, to peony, semi-double.
2 Yr. Grafts (solid or pink)—\$20.00 4 Yr. Grafts, budded—\$25.00
- 'FEROL ILENE'—Medium Japonica, white formal double. Our BEST White!
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hardly any effect at all on sasanquas.

It's elementary, but gib is not applied to a plant—it's applied to buds. How? Knock or twist off the (vegetative) growth bud which adjoins the flower bud which you choose to treat. This leaves something that resembles a little cup into which you drop the acid. By gentle handling you won't shake the fluid out of the cup—although a strong wind may.

Of course, this act is impossible until you can distinguish between the growth bud, which is the longer and more pointed, and the flower bud, which is usually the fatter and more rounded of the two. The time when first to apply gibberellic acid differs geographically. It may be the early part of August if the buds are well formed, but usually this does not come about until the latter part of August or the first part of September.

Rather than accomplishing all of your gibbing in one session, it is best to gib at weekly or alternate-weekly intervals so that you will have flowers opening over a longer period; elongate the blooming season. Since camellias set bloom buds just once a year, it is well to remember that an autumn gibbed bud will not be replaced for spring flowering. Hence, be cautious as to the number of buds you treat on any one bush. The larger the bush, the more buds you can treat, but most people will want to leave about 80% of the buds for the spring blooming season. And a good rule is to apply the acid very sparingly to a bush under three or four years old. Usually, one drop of the acid does the trick; but occasionally you run into someone who insists that, after a week or two, you should return and place another drop of acid where you put the initial drop.

When do you get results? This can vary, depending upon area and weather. Varieties marked E for early in the Nomenclature Book may be expected to open fully within 25 to 40 days after treatment; those marked M for midseason blooming may take 35 to 65 days. On the Gulf Coast action may be speedy; in cooler areas

it may be slow. In fact, an unusually chilly autumn has been known to so retard the action that the flower may open barely ahead of its usual spring date. An exceptionally early hard freeze could spoil most of your labor, but let it not discourage you because a warm November or December may recover much of the loss. Furthermore, it would be extremely strange to have such bad luck in successive years.

Gibbing may reasonably be continued until six or seven weeks before freezing temperatures are expected. This would be about September 20 in the Mid-East but as late as the end of October in the Pacific Northwest where it is not unusual for gibbed japonicas to flower in December at lower elevations west of the Cascade Range.

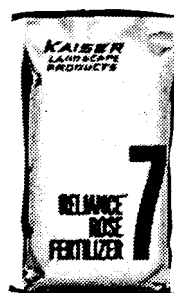
There is no universal rule on the *subject of watering* during autumn. Opinions may differ because of natural conditions—September is normally the start of the rainy season in the far northwest whereas it is often the driest month of the year in the southeastern area. There are strong feelings among some folk that watering should be avoided in early fall to

discourage new growth which freezing weather will kill, and there are strong feelings that plans should be ushered into the freezing weather with a good reserve of moisture in the soil. Experience has shown that speedier and more perfect results from gib are obtained when plants get a deep watering weekly. One thing is sure: camellias are not helped but are hurt by drought; *they should not be allowed to dry out*, regardless of season.

So, camellias call year-round for a good layer of *mulch*, from 4 to 8 inches thick, over the roots. While disintegrating *mulches* contribute welcome nutrients to the soil, they tend to become rather thin after a hot summer, so fall is a good time to renew the mulch with oak leaves, wood chips, pine straw or ground up bark. This will impede freezing of earth from which roots need to draw moisture. Thus it will help the foliage to withstand burn by winter wind and sun.

As far north as Washington State some growers keep their camellias in cans all year under deciduous trees. Wherever this is done, heavy mulching is particularly important. Not only should the can be filled to overflow-

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ing with mulching material, but the mulch should be thick around and between the cans. Coarse sawdust will do well for this purpose. For mulching, refer to the 1974 ACS Yearbook, Vol. 11, p. 118.

Many *C. japonicas* tend to set an excessive number of flower buds in late summer and early fall, and in the far South may continue until December. This is great for a lawn specimen you want to be strikingly showy, but there are some disadvantages. The

blossoms are inclined to be smaller. By getting in each others way as they develop and by rubbing and scratching each other in wind and rain, they are often flawed. To open unblemished a bud must have room. Therefore, many growers disbud to the end that healthy, well located buds may develop unhampered.

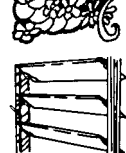
Disbudding can be started in September and repeated in October and November. Buds to be left on the plant are those which can open fully

without interference. Buds of varying sizes should be left so they will not all open at once but provide an extended display. When the choice is between a bud facing upward and one facing downward, leave the one pointing down for it will fare better in rain and snow.

While removing unneeded buds, keep an eye on *maturing seed pods* and harvest them just before they pop open, for the exploding pod throws the seeds hither and yon so they will probably be lost. While some growers rid their plants of seed pods as soon as they are visible on the theory that the plant can more beneficially employ its strength in other ways, many prefer to grow new plants from the seed either on the very slim chance that a truly magnificent new variety might be developed or else for root stock on which to graft in later years. For detail, read the 1972 ACS Yearbook, p. 103. If you decide to plant the seed, act rapidly for, once the seed is out of its pod, it loses viability fast.

What about planting or *transplanting camellia bushes* in the fall? In the Mid-East this is considered hazardous because the bush will not have time to become established in its new location before the onset of cold weather. In many areas, however, September is considered a good month for this, because the earth is quite friable, the year's extreme heat is past, the autumn rains will spur new root growth, and freeze time is still a long way off. However, transplanting a large bush should be attempted only if it has been root pruned several months before. To compensate for loss of root in moving, it is a good idea to head back the main branches and cut off the weaker side shoots.

North of the Carolinas it is rather late for *pruning*, but not so in the South. If the current year's growth has been too thick, thin out the branch tips to make room for proper development of blossoms later. Maybe your pruning last spring was not suf-



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ficiently brutal. Trim out those crossing branches and open up the plant.

In different parts of the country camellias are bothered by different kinds of *pests and diseases*. Control is a twelve-month job. Call it *Sanitation*. The longer your house goes untidied, the harder it is to get it spic and span again. The same with the garden. A little work every now and then, no trouble. But let the dust accumulate in the house and allow the insects and scale to really get going on the camellias; well, you have got yourself a problem.

So, don't just spray once a year or pick up and destroy fallen blooms in spring only. You may need to use that oil spray again in the fall, or the malathion, or to circle the trunks of the camellias once more with a two-inch band of dimethoate (Cygon), or to dust the surface of the root area with Chlordane or Spectracide (Diazinon)—or take all of these sanitizing steps. Knowing what insect or scale perplexes you, attack it this fall. If you do, the same job come spring will be only half as hard. Refer to the Insect Control Schedule in the 1974 ACS *Yearbook Vol. 11*, page 60.

Since sun and air provide about nine-tenths of the nourishment a camellia requires and only one-tenth is derived from the soil, it does not make sense to feed camellias heavily or often. True, those in shade deserve more *fertilizer* than those in full sun, and those in pots or planted in sandy soil more frequent (but lighter) doses than other camellias in the ground. The propitious time for feeding is springtime, when the flush of new growth begins. In autumn, the need of food may be satisfied by a quarterly feeding of cottonseed meal in the deep South. In cooler climes, if anything, the plants prefer in late fall a slow-breakdown urea-form of fertilizer which won't stimulate new growth before spring. This is a good time almost anywhere to supply some of the secondary food and mineral trace elements (magnesium, calcium, sulphur, boron, copper, iron and

zinc), so try Esminel or similar products which combine these elements.

If you tried *propagating camellias* in the spring by grafting or air-layering or in the summer by rooting cuttings, you have work cut out for you in the fall. If the new growth on grafts has been hardened off and the covers removed, the scions should be sprouting fast by now. At this stage more water is needed than with established plants. Some protection against early freezes may be in order if the new growth is still tender. In fact, for the first winter, it may be a good idea now to prepare the erection of some form of protection against strong winds and snow. The same holds true for air-layers which are severed from the parent plant in September and put in the ground or in cans. At the same time, plan for winter protection of your newly rooted cuttings, which is really vital to their success.

Incidentally, the word from the West Coast is that November and December are ideal months to try rooting sasanqua cuttings because the new wood is half hardened then. Use regular cutting procedures with bottom heat and high humidity; and it helps to sterilize the cuttings first by soaking them half an hour in a solution of Benlate (1 tablespoon per gallon of water).

Camellias in containers will have extended their root systems during the warm weather. Those that have become root-bound should now be root-pruned or transferred to larger pots where they can put out more feeder roots for the winter season, especially if they are going into the greenhouse for the winter. The liming you did last spring should have taken effect so the soil pH should now be between 5.5 and 6.5; if not, add a bit more lime. This is also a good time to feed these plants 0-14-14.

If you are going to put these plants in the greenhouse for the winter, you have only a month or so to ready the greenhouse, repainting where necessary and spraying to destroy insects and fungus. If you will paint the rafters and studs white, they will reflect rather than absorb the sun's rays, conserving energy and reducing your heating bill.

—ACS—

Green Thumb Jailing

POCATELLO, Idaho (UPI)—Roy Newsom's instant green thumb got him up to five years in the state prison.

Judge George Hargraves sentenced Newsom, 19, for first-degree burglary in the March theft of \$1,500 worth of merchandise from a greenhouse—much of it flowers.

Citrus as Companion Plants With Camellias

BURL TURNAGE
Albany, Georgia

Ripe citrus and blooming camellias together in your greenhouse? Sure! They go together like whipped cream and strawberries. Try them sometime.

We have been growing them together for years and every year we enjoy it more and more. It is easy, and it is fun. If you do a good job you will get lots of good eating as well as a lot of good looking.



Each of these Ponderosa lemons weighed 2 pounds, 15 ounces on Sept. 15.

Practically all of the hardy citrus varieties do well with greenhouse camellias. They will grow equally well in any area where camellias are grown successfully. Plants can be purchased at most commercial nurseries in the camellia belt. They should be grafted or budded on Trifoliate orange understock to induce dwarfing, cold hardiness and as an aid in increasing soil tolerance in crowded conditions.

You can use the same soil mixtures, same fertilizer and spray programs as with camellias with one exception. Some of the systemic poisons will defoliate tender limes and lemons when used as a foliar spray.

Most varieties of citrus can be easily trained and grown either as trees, shrubs, vines, hanging baskets, or espallier. They can be adapted to fit most any greenhouse needs.

There follows a list of varieties with which I have been most successful:

- Kumquats (Marumi, Nagami, Meiwa)
- Lemons (Ponderosa, Meyer)
- Grapefruit (Duncan, Marsh)
- Oranges (Indian River, Poncan, Murcot)
- Satsumas (All varieties)
- Limes (Key & Persian varieties)
- Calamondins (All varieties)
- Tangerines (Celeste)



Satsumas, Meyer lemons and 'TIFFANY VAR.' on Christmas Day.



'MARIE BRACEY VAR.' camellia, grapefruit, lemon and satsumas growing together in container-grown plants.

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Get On Your Mark, Get Set, GROW!

Now, your own greenhouse to really grow in. This big 8'x 9' **GREENTHUMB HOBBY HOUSE** proves it doesn't have to be expensive to get into year-round production of fruits and vegetables, flowers, exotic tropicals. This big 8'x 9' Greenthumb Gothic Arch Hobby House gives you plenty of room to grow anything you ever wanted.

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Sold in leading department stores, hardware stores and garden centers. For the name and address of your nearest dealer, and a FREE color brochure write—

GreenThumb HOBBY HOUSE Products T.M. RIDGELAND, MISSISSIPPI 39157

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Give your plants a good dome.

The geodesic dome is the strongest, most efficient structure ever devised. Semispheres thinks the geodesic dome is the perfect idea for a greenhouse. So that's what we build. Living spaces for you and your plants.

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In short, we think a Semispheres Greenhouse is the best you can buy.

We can send you a greenhouse that you can put together in a couple of hours for \$139. Or we can put up an elegant living environment like the one pictured here. And we've got plenty of models in between to choose from. But regardless of which model you select, you'll get more for your money in a Semispheres Greenhouse. Not to mention how much your plants will love you for it. Dome, sweet dome.



Semispheres

For complete information write to Semispheres, Post Office Box 26273, Richmond, Virginia 23260. Or phone (804) 321-9283.



Model pictured: Semispheres 16 ft. diameter, 12 ft. height, 1600 cubic ft. two frequency solar dome. Built of salt treated pine. Flooring not included.