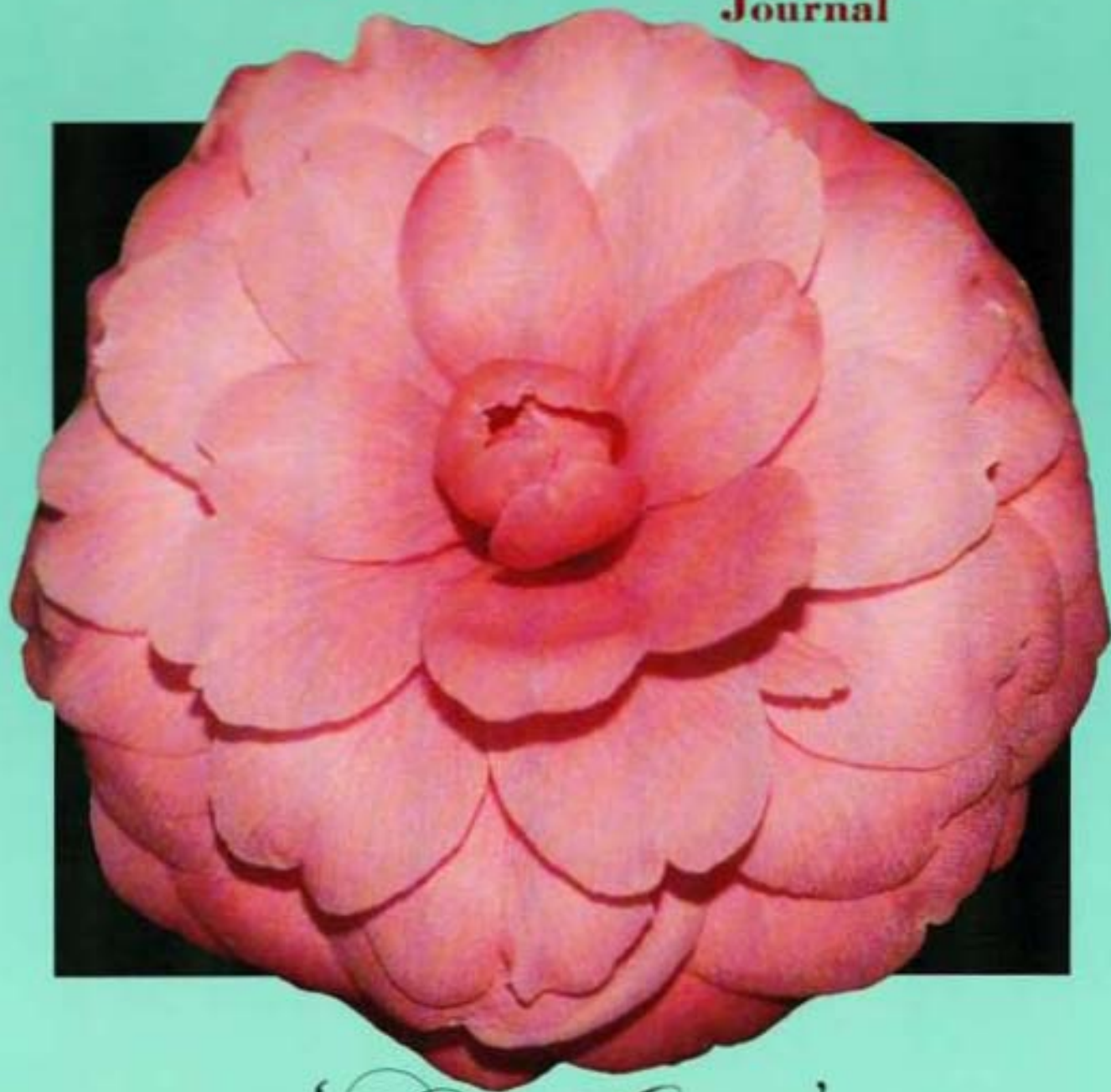


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SPECIAL ISSUE
Cold and Heat
Hardiness

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OF THE

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The Camellia Journal

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OFFICIAL PUBLICATION OF THE AMERICAN CAMELLIA SOCIETY

VOLUME 44

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AUGUST 1989

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40th ANNIVERSARY CAMPAIGN	Inside Back Cover

About Our Front Cover Camellia

"Diane Carroll"

The camellia named for the only daughter of Harry R. Carroll, Diane is the mother of Harry's two grandsons, Nicholas and Scott. She has been selected as an Outstanding Young Woman of America in recognition of ability, accomplishments and service to the community. She is listed in "Who's Who" for women Engineers. Diane is a Professional Engineer and has worked on bioengineering projects in the Nuclear Division of Westinghouse in U.S.A. as well as in several European reactors. She is presently Project Manager of the Phalang close-in defense system developed for the Navy by General Dynamics in Pomona, California. This serious business does not prevent her from growing exotic flora on her estate in Upland, California and she is getting into developing camellias adapted to the foothills of Sierra Madre Mountains. Tamara Nursery and Nature created this unique bloom and it was included in a shipment of Tamara Blue Ribbon Camellias to Washington, D.C. requested by an organization of Japanese delegates, to be displayed during the inaugural festivities of President Bush.

Diane has the heritage of her father's long line of Irish-American ancestors who participated in the Declaration of Independence and the Constitution of the United States. There is serious consideration in making "Diane Carroll" the family flower to be passed down through future generations.

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FROM THE PRESIDENT

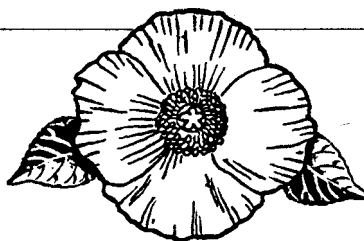
H. C. Rambath

The first thing I must do is to thank Mrs. William T. Shepherd of Charleston, South Carolina, for the new picture of me in this issue. It was taken while on tour of Emmett Barnes III's garden in Macon, on April 7, 1989. This will also remind everyone of the past convention at Masee Lane. It was a wonderful occasion—one I'm sure will long be remembered.

This leads us to upcoming events with the Fall Meeting in Natchez, Mississippi, October 18 - 21, 1989. There is going to be a lot of history packed into this long weekend. Mark the October dates down now to attend. I understand Mobile, Ala. will host the spring meeting in January of 1990, dates will be coming in later Journals.

Now for camellia thinking. Early June shows the new growth hardening off, and on some terminals, flower buds are forming. This means the new camellia season is starting and all our dreams are beginning to come into view. My enjoyment begins now. Every night I check my lath house to watch the progress of this interesting process. Too, at this time, we must watch our watering and fertilizing programs. When the buds have swollen enough to show some size, I start my gibbing program. I try to work out a schedule where I gib every two weeks—some I do only monthly, depending on size of plants. Hopefully, my first gibbing is completed by Labor Day. This will give me flowers by October 15th which really extends my flowering period to six months.

May everyone have a good summer and I hope to see you all in Natchez.



★ Reprinted with permission of Mrs. Douglas Deane Hall from *The Camellia Journal*, Vol. 39, No. 4, November, 1984.

Heat Hardiness & Summer Care

Douglas Deane Hall*

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

After you have moved your greenhouse potted plants outdoors and cleaned (sterilized) the inside making it ready for the following winter’s use, you may think you can rest during the lazy season ahead. Your plants in the ground sparkle in the first flush of new growth; it’s time to go fishing. You have finished your grafting and started enough air layers; you are about to plan a mountain or seashore vacation. Cynically we repeat, “oh, yeah?” Think again.

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

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

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

or heat); tolerance, an uneasy, permissive approach.

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

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

Many old gardeners believe that camellias should not be planted in sunny locations, but there are challengers of this belief. For example, long ago we used up all the shady spots in our northern (MD) and southern (FL) gardens, so, to

extend our collections of camellias, we had to use some unshaded areas. The results have been pleasantly surprising.

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

Coincidentally we have become aware of a somewhat similar phenomenon occurring in the southwest corner of the Maryland garden where a slat house was erected in 1965 to provide partial shade for 25 or 30 camellias. The finest development of plants and flowers took place there in the early

years. However, 1977 brought the first of three disastrously cold winters, including 1981-82 and 1983-84, when temperatures dropped below 10° F even down to 10° and 15° below zero. Plants under the slats were harder hit than those in the open.

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

After those extremely cold winters, some camellias appeared dead in early spring but were resuscitated in summer by action of nature, not man, and the same thing could be

happening in other parts of the country. Camellia-coroners may have rendered death-by-cold verdicts too hastily. Currently, however, growers adopt a new strategy: don't dig up and destroy the thought-to-be-dead plants before the first of August because many of them may issue sprouts from roots or from dead-looking wood as late as June and July. Although some of the new growth won't harden off sufficiently before frost arrives, some will survive a normal winter and then thrive.

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

A word about regularity of water supply. Camellias need an inch of water every week. If rainfall fails to

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

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

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

In discussing containerized camellias we mean those growing in plastic cans. If yours are in wood, metal, cement or pottery containers,

please allow for whatever differences you deem advisable as space does not permit reference to every type.

We stand our cans on the ground in summertime like most greenhouse growers do on putting theirs outside for the season, although some sink their cans in the ground (to ameliorate the job of watering) at pain of having to dig them up in autumn. Some degree of shade should be provided (1) because, having been protected all winter, they cannot be considered sun hardy and (2) in order to delay evaporation from the can. Overhead slats, cloth, trees, fences or walls will aid in this respect, and mulch too if placed atop the soil in the can or around the exterior and if thick and heavy enough not to be blown or washed away by storms or shunted aside when birds or beasts are rummaging for food. Such possibilities are reduced if the cans are placed quite close together with mulch between them.

Misting of foliage of container plants is always welcome,

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

In two respects the feeding of container plants differs from those in the ground. Because frequent watering tends to leach away the food, more frequent feeding is necessary; and because the compact space increases the danger of burn, the dose of food should be smaller. A good practice is to use a 4-8-4 mix (less nitrogen and potassium than phosphorus) monthly after blooming and between times a soil drench made from a peck of manure suspended in 25 gallons of water. If you ever visited rural Germany in summer, you saw the ox-drawn carts ("honey wagons") hauling big

(Continued on Page 26)

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

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

Sun Tolerance of Camellias

Bill Donnan

Dr. C. David Scheibert, of the Fort Valley office of the American Camellia Society, had written Julius Nuccio asking him for an article on Sun Tolerance of Camellias. Julius came to me and said, "I'm too busy to write this article. Why don't you write it and I'll help you". I said, "Cheeze! I don't know that much about it. How would one start an article like that?" Julius says, "Oh, that's easy. Just write that camellias are shade loving plants and go on from there!"

So here I am folks. Just sit back and relax while this fool walks in and sticks his neck out about two feet so it can be chopped off. First let me say that camellias **ARE** shade loving plants but to maintain that they can not be grown in full sun is an old wives tale. Proof of the fact that camellias can be grown in the sun can be found everywhere in southern California. One needs only to drive around the San Gabriel Valley in order to observe camellias 20 or more feet high growing in full sun and hedges of camellias down the sides of walks or along property lines which seem to thrive in full sun. If one looks at pictures of camellias

growing in the wilds in Japan, Okinawa, and China he notes that they exist in clumps and bunches with no visible shade whatsoever.

If this is true why can't any novice camellia hobbyist buy a camellia just like the one he saw at the Spring Camellia Show, take it home, and plant it in that nice new \$50 clay pot on the south side of his house near the front door? Well, the chances are that this newly purchased camellia is going to curl up its toes and be dead by July 4th! The reasons for this are not obscure and they revolve around the four "C's"; namely, Culture, Climate, Color, and Chromosomes. Let us discuss these four items and maybe we can give this new hobbyist a few hints on how he can grow his new camellia in full sun.

CULTURE

Chances are that most of the new camellias purchased at a nursery were grown in a lath house or under 50 percent shade. To bring a shade-grown plant into the full sun is a "NO-NO"! It cannot be done without considerable leaf burn. Furthermore one could not plant a camellia in a container and place it in full sun. The plant would die. In order for a camellia to be planted in full sun it must be planted in the ground with a deep mulch around the base and with very frequent

watering. One point for the novice camellia hobbyists to check would be to purchase a virus free plant having dark green foliage. If the foliage is light green or shows any sign of chlorosis or irregular splotches on the leaves, it will be less sun tolerant. Virus infected plants will be literally "eaten up" by the sun. For example, the variety *C. japonica* 'Feathery Touch' requires almost full shade in order to survive. Its foliage has a considerable amount of yellowing.

CLIMATE

The climate in which a camellia is grown has the most influence on its sun tolerance. If the climate is right every camellia known to man will thrive in full sun. The best example of this is the situation in New Zealand. Hobbyists there can grow any camellia they choose in full sun. The reasons for this can be explained as follows. It is known that camellias grow best in the 30 degree to 40 degree zones North and South of the Equator. If you live any closer to the Equator it is too hot and if you live any farther away from the Equator it is too cold. The 1,000 mile long New Zealand Islands lie between 35 degrees and 45 degrees South latitude. The Islands are long and narrow. In many places they are only 25 to 50 miles wide with the Pacific Ocean on both sides. This acts as a

(Continued on Page 27)

Guest Editor's Note



Dave Scheibert

This issue will not solve camellia cold and heat problems but it helps centralize information and provoke thought and planning to launch the camellia into wider use as an outside and landscape plant. This beautiful shrub or tree has advanced its climatic adaptation over the centuries. The genetic material is available to breed plants that can survive in tropical to cold temperate climates, bloom in all months of the year and introduce more fragrance and colors.

The valued contributors have graced this special issue with international knowledge on cold, heat and sun tolerance. Our Chinese friends have given us current information on the "Golden Camellias." My warmest thanks go out to those who were so generous with their time and knowledge.

Other valuable past references cannot be ignored. Dr. H. S. Wolfe's ¹ basic article on cold and camellias is very informative as is Dr. James Bonner's ² on climate and flowering. Mr. Claude Thoby's ³ observations in France on camellias in frost is a good reference and Dr. Ross Hayter ⁴, Australia, has written on camellias in a hot climate. Scheibert ⁵ lists existing cold hardy camellias at Massee Lane as well as cold damage protective measures which should include July or August potash and phosphate feeding.

It is hoped that presentation of this special edition will be not only helpful to the readers; but will be a catalyst to investigation that will speed knowledge and increase the use and range of camellias.

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BASICS for the BEGINNER

Betty Hotchkiss

In keeping with the theme of this Special Issue Journal, my column will deal with some basic horticultural practices which can be used to help protect camellias from the extremes of heat and cold.

A good layer of mulch will help protect plants from both heat and cold by moderating the soil temperature. It will also help to conserve moisture in the soil. A mulch can be composed of many things such as pine straw or pine bark, composted leaves, peanut or pecan shells, and other such material. In addition to protection of the roots, this type of mulch will also decompose and add nutrients to the soil. However, it is important that this material should be composted, having already "gone through a heat." A layer of two to three inches is desirable while a thicker mulch may be harmful to the plant. Peat moss should be avoided as a mulch for it is very difficult to wet after it has dried and water will often roll off the surface keeping it from getting to the plant. Organic "living mulches" are also helpful. Creeping ground covers such as bugle weed or even grass will provide more protection to the roots than the bare ground. More water will be necessary, however, for these additional plants.

Proper watering of camellias will do much to help protect plants from heat and cold. Camellias prefer a slightly moist soil and require a good soaking weekly if rain is not available. The drying winds that accompany a cold spell are often more devastating to the plant than the cold temperatures. These winds promote the loss of moisture through the leaves of the plant. A good soaking before a cold spell is advantageous for protection of camellias.

Proper location of camellias will do much to prevent damage to plants from heat and cold. Camellias planted in full sun may suffer more damage from cold than those planted in shade. Camellias as foundation

plants are recommended for the northern and western exposures only. Early morning sun shining directly on frozen bark can cause splitting of bark on plants, especially those with a southern or eastern exposure. Camellias planted in full sun will also suffer more from the heat. Air drainage is also important as a means of decreasing cold injury. Cold air is heavier than warm air and will settle in low spots. Therefore, camellias planted in a depression will be much colder than those on the slopes above.

To prevent cold damage, growers should abstain from practices which keep the plant in active growth in the fall. A high nitrogen fertilizer should not be applied late in the season as it will cause new growth to emerge but not harden before cold weather. Camellias that are more dormant will be better able to withstand cold temperatures than those in active growth.

Freeze injury may also be reduced by covering the plant, but not touching, with cloth or paper before sunrise, slowing the thawing process. Rapid thawing caused by spraying water on frozen plants is likely to cause more injury to the plants.

Vigor of the plant is another factor in response to heat and cold injury. A healthy plant, free from insects and diseases, will be able to better endure the effects of temperature extremes. Weak plants will succumb more quickly than strong plants.

Finally, there is much varietal difference in response to climatic change. Certain varieties have been found by experience to be above average in hardiness for a specific area. Local growers can often offer advice based upon years of experience. Many articles have been written in camellia literature in the past on this subject.

Therefore, protection of camellia plants from heat or cold injury has several different aspects. First, select good varieties for your area. Second, follow good cultural practices to produce healthy plants. And lastly, select the optimum location for camellias to flourish. Following these practices will help camellias to withstand the natural extremes of temperature regularly experienced by the camellia grower.



*Natchez Eola Hotel was built in 1927, and underwent a multimillion dollar face-lift in 1980. Located on the National Register of Historic Places.
(Photo courtesy of Natchez Convention & Visitors Bureau)*

Historic Natchez: ACS Fall Convention City

October 18-21

The Natchez Eola Hotel, listed on the National Register of Historic Places, will be the site of the Fall Convention, October 18-21. Opened on July 1, 1927 it was acclaimed by newspapers as a great "symbol of civic progress". The center of social activity in southwest Mississippi and east central Louisiana until its decline in the 1970's, the hotel at seven stories, is the highest structure in downtown Natchez.

A period of prosperity lay ahead for the Eola with establishing in 1932 of the Natchez Spring Pilgrimage to local ante-bellum homes and gardens. With the coming of new chain motels on highways leading to Natchez, the registrations at the Eola declined and it was closed in 1974. As part of a major rehabilitation of downtown Natchez, the Eola underwent a multimillion dollar face lift in 1980. With the completion of the work in 1982, once again, the Eola stands as the embodiment of what makes the South the South; courtesy, hospitality, gentility, graciousness and beauty.

The Committee has planned many interesting activities for the participants. A full schedule is included in this issue. PLEASE NOTE that the camellia show will be held on Friday, October 20. Since this is an early show, members are requested to bring as many blooms as possible for this event. Entries will be accepted from 8:00 a.m. to 11:00 a.m. Harry Stone has announced that camellia trophies will be given for Best large or very large; Best medium; Best small; Best miniature; Best reticulata hybrid and Best non-reticulata hybrid. There will also be a trophy for the Runner Up in each of the above as well as the Best plate of three blooms of the same variety, Best plate of three blooms of three varieties, Best seedling and Best bloom in the show. The Evelyn Abendroth Award will be given to the blue ribbon winner of 'Rachel Tarp'.

Plan to join your camellia friends in Natchez at the Eola Hotel October 18-21.

NOTES FROM THE HORTICULTURIST

Betty Hotchkiss

Camellia growers watch their plants with mounting excitement throughout the summer as the beautiful new growth begins to harden and flower buds form and swell. With each new growing season comes the promise of beauty yet to be seen. Diligent care during these "growing months" will be rewarded by beautiful blooms in the winter.

Growers should keep in mind that camellias are plants with a high moisture requirement. It is essential to water throughout the summer months when temperatures rise and soils dry out quickly. Container plants are especially susceptible to drying out and may have to be watered daily depending on conditions and soil mix. Overhead sprinklers have the advantage of washing the leaves (thereby removing some insects and dust), raising the humidity, and lowering the temperature. Although camellias may be watered any time of day I recommend the morning hours. Less water will be lost to evaporation and plants will be better able to withstand the hot, mid-day sun. Late afternoon watering where moisture may stay on the leaves overnight is not recommended for most plants as it may encourage foliar diseases. However, camellias, with their leathery leaves, are rarely bothered by leaf spot diseases and this should not be a serious problem. If water shortages are a problem in your area, drip irrigation can be a solution. With this method, little water is lost through evaporation or run-off but instead

gradually seeps through the soil to the roots. Many plants show drought stress by a curling of the leaves and will quickly recover after a thorough watering. Camellias, however, if left without water until they show stress may be injured past recovery. When watering the plants, a thorough soaking several inches into the soil is much better for plants than several light waterings. One final caution on watering concerns the pH. Water pH can vary quite a bit and can change the pH of the soil over a period of time. This can be a real problem for plants in containers. Water pH can be checked by the Extension Service if you think this may be a problem.

Disbudding is a task that is generally performed in the late summer to early fall. To encourage larger and more beautiful blooms, some flower buds should be removed leaving no more than one per terminal. If large show flowers are desired, plants should be heavily disbudded channeling the energy of the plant into fewer flowers.

Gibbing is also done in the early fall. Gibberellic acid, a natural plant growth regulator, is used by camellia growers to produce earlier and larger blooms. Camellia growers have been treating flowers with "gib" for about 30 years. It is a safe process and allows for an extension of the blooming period of camellias. Gibberellic acid may be purchased from ACS headquarters for \$7.50/gram of powder. This comes with instructions for easy mixing and application.

As summer draws to a close we all eagerly anticipate the beginning of camellia season. Let us do all we can to promote this beautiful and interesting hobby and the flower we love so well.



Nell Watson, Marian Dils, Director-at-Large, Gulf Coast; Janet Smith and Pearl Terry, Florida Director, enjoy the reception honoring Annabelle Fetterman after the dedication. In the background a window in the ACS Gift Shop.
(Photo courtesy of Greg Davis)



Susan Plummer, center and Frances Bowden, ACS Staff at the new cash register in the gift shop.

Future Meetings of the AMERICAN CAMELLIA SOCIETY

October 18-21, 1989
Natchez, MS

January 18-20, 1990
Mobile, AL

Fall 1990
Open

Spring 1991
Descanso Gardens,
Los Angeles, CA

Fall 1991
Open

Spring 1992
Walnut Creek, CA

Camellias Registered With The ACS Since The May 1989 Journal

Name and Description	Registry Number	Originator
'Mini Pep', miniature, color varies from solid rose pink to off white with rose streaks to white blooms with rose spots, formal double <i>C. japonica</i> chance seedling, early	2136	Tom Eagleson
'Janie Dover', small, rose shading to pink center, formal double, <i>C. japonica</i> chance seedling, mid-season	2137	Mrs. Henry S. Stone
'Stone Gates', medium, deep rose to bluish rose, anemone form, <i>C. japonica</i> chance seedling, mid-season	2138	Vi Stone & Theo Gates
'Nellie Jones', medium, white, formal double, <i>C. japonica</i> chance seedling, mid-season to late	2139	Johnny Aldrich
'Martha Floyd', small, white, semidouble <i>C. japonica</i> chance seedling, mid-season	2140	Johnny Aldrich
'Dr. Nicky Shuman', large, white, anemone form, <i>C. japonica</i> chance seedling, mid-season to late	2141	Johnny Aldrich
'Lucille Jernigan', very large, white, anemone to peony form <i>C. japonica</i> chance seedling of 'Helen Boehm', mid-season to late	2142	Dr. Walter F. Homeyer
'Henry Lunsford', very large, bright red, semidouble to peony form <i>C. japonica</i> ('Ville de Nantes' x 'Granada'), mid-season to late	2143	Marvin Jernigan
'Ruth Smith', medium, pale pink edging to deeper pink peony form <i>C. hybrid</i> ('Donation' x 'Anticipation'), mid-season	2144	Marvin Jernigan
'Frances Lunsford', large, white, semidouble, <i>C. japonica</i> chance seedling of 'Elizabeth Boardman', mid-season to late	2145	Marvin Jernigan
'Ghentry J.', very large, white and blush white, rose form double <i>C. japonica</i> chance seedling, early to mid-season	2146	O. L. Jacobson
'Diddy's Pink Organdie', medium, dawn pink with lighter pink toward edge, rose form double to formal double <i>C. japonica</i> sport of 'Diddy Mealing', mid-season	2147	Dr. H. G. Mealing
'Annie Jones', large, pale pink semidouble <i>C. japonica</i> chance seedling, early to mid-season	2148	Annie Jones
'Rev. Lawrence V. Bradley', medium, soft pink, formal double <i>C. japonica</i> chance seedling of 'Elizabeth Boardman', mid-season to late	2149	Walter A. Wilson
'Milton Brown', very large, brownish red, semidouble <i>C. reticulata</i> chance seedling, mid-season to late	2150	David L. Feathers
'Jan J.', very large, rose, peony form, <i>C. japonica</i> chance seedling, mid-season	2151	O. L. Jacobson
'Mark J.', very large, rose, peony form, <i>C. japonica</i> chance seedling, mid-season	2152	O. L. Jacobson
'Brenda Kay', miniature to small, deep red with wine edges, formal double <i>C. japonica</i> chance seedling, mid-season to late	2153	Lillian C. Schaefer
'Charles F. O'Malley', large, flesh pink, formal double <i>C. japonica</i> chance seedling, mid-season to late	2154	Marge O'Malley
'Lillie Roseman', small, soft pink/white, formal double <i>C. japonica</i> ('Cara Mia' x 'Chow's Han-Ling'), mid-season	2155	Mrs. Henry S. Stone
'Glenn Hanchey', medium, pure white, formal double, <i>C. japonica</i> ('Cara Mia' x 'Han-Ling Snow'), early to mid-season to late	2156	Mrs. Henry S. Stone
'Winifred Baldwin', large, pink and white variegated, semidouble <i>C. japonica</i> chance seedling, mid-season	2157	Mrs. Donald Baldwin
'Barbara Colbert Silver', large, white with a few pink stripes, semidouble <i>C. japonica</i> sport of 'Barbara Colbert', early to mid-season	2158	Alda K. Boll
'Alda Boll', large, deep rose pink, peony form, <i>C. japonica</i> chance seedling, mid-season	2159	Alda K. Boll
'Mary Baine', medium, pink variegated white, rose form double, <i>C. reticulata</i> hybrid (<i>C. reticulata</i> 'Pink Sparkle' x <i>C. hybrid</i> 'Julie'), mid-season to late	2160	R. B. Gramling
'Delores Edwards', large, light orchid pink, semi-double to anemone form to peony form, <i>C. hybrid</i> chance seedling of a <i>C. saluenensis</i> - <i>C. japonica</i> hybrid, mid-season	2161	Hulyn Smith
'Eric Wilson', very large, rose pink, semidouble <i>C. japonica</i> chance seedling, mid-season to late	2162	Walter A. Wilson
'Grace Chow', medium to large, delicate pink with red stripes and red freckling, semidouble <i>C. japonica</i> ('High Wide 'n Handsome' x 'Betty Foy Sanders'), early to late	2163	Dr. Leland E. Chow
'Amy V. Thomas', small, red, formal double, <i>C. japonica</i> chance seedling, mid-season	2164	Lindsey A. Odum
'June Norman', medium to large, dark rose pink to rose red, formal double, <i>C. reticulata</i> hybrid chance seedling of 'Diamond Head', mid-season to late	2165	James Norman
'Emma Jean Crocker', small, white, peony form to rose form double <i>C. japonica</i> chance seedling of 'Magnoliaeflora', mid-season to late	2166	Eileen C. Hart

REGISTRATION CHANGES:

- 'Bart Colbert' — ACS REG #1503—change form from "rose form double to formal double" to "semidouble".
 'Ann Clayton' — ACS REG #1862—change spelling to 'Anne Clayton'.
 'Hor Pink' — ACS REG #2072—change size from "medium to large" to "medium".

Book Review

Betty Hotchkiss

Successful Southern Gardening: A Practical Guide for Year-Round Beauty

Sandra F. Ladendorf
 The University of
 North Carolina Press
 P.O. Box 2288
 Chapel Hill, NC 27515-2288

Veteran gardener, Sandra Ladendorf, writes about her experiences in the garden as a newcomer to the South in 1980. This book is a practical guide of information for both the novice and the experienced gardener. Drawing on her years of experience as a gardener, the author discusses ideas for year-round gardening in the South.

This comprehensive book covers a wide range of topics from soils, propagation and pest to the wide variety of plant material available to the southern gardener. Camellias are discussed along with azaleas and rhododendrons. Many quotes from Dr. Clifford Parks, an experienced camellia researcher and ACS member, are included. Much attention was given to Dr. Parks work and other areas of research with camellias and less to the basics of camellia culture. However, the information presented was accurate and well illustrated. Also listed in the back of the book was the name and address of our society for those who may wish to learn more about camellias.

Congratulations to the author on a well-written book that would complement any southern gardener's library.

Membership

We have obtained 502 new members for ACS for 1989. Renewals of previous members is lagging and we need 96 more to equal our 2.3% gain to 3994 in 1988. Become a speaking camellia advocate and help us up to 4200 members for a 5% gain in 1989—or MORE.

Breeding for Winter Tolerance in Camellia

**Clifford R. Parks
and
Kai Mei Parks**

INTRODUCTION

Twenty-seven years ago I (CRP) became involved in research with camellias, when in 1962 I was employed by the Los Angeles State and County Arboretum and the Camellia Research Advisory Committee. Among other duties I was assigned 4 basic breeding objectives; one of which called for the breeding of winter-hardy cultivars, still one of our major research concerns with camellias. In fact, the program of breeding cold-resistant camellias has continued, with regular

modifications, to the present. I remained with the L.A. Arboretum until 1967, when I took a position at the University of North Carolina at Chapel Hill. Since moving to North Carolina our involvement with camellia breeding has been mostly a part-time project carried out at our home.

The evolution of this project will be reviewed here. During the first few seasons in Los Angeles, we intercrossed cultivars of *C. japonica* considered by growers in colder areas to have superior cold resistance. Wild forms available at that time turned out to be no hardier than the better cultivars. Since we worked in southern California, there was no opportunity for us to make hardiness observations; thus, we depended entirely upon the literature and the first-hand observation of

growers for our choice of breeding parents. Without our own hardiness trials or the opportunity to visit the coldest areas where camellias are native, we could only estimate the hardiness of our parental stocks. Many of the progeny that were produced showed significant hardiness, but also a large number were no improvement over the general fare available.

In the effort to screen the thousands of seedlings generated by the crossing program at LASCA, we rooted cuttings from most of our *C. japonica* hybrids bred for hardiness and distributed them to a large number of botanic gardens at, or slightly beyond, the northern end of the range of camellia cultivation. This mode of testing was designed to amass hardiness information on our seedlings which we could not field test in the mild climates of southern California. The results of this very labor-intensive testing program were very disappointing. Most of the collaborating institutions did not have the staff to manage the rooted cuttings of camellia properly or plantings were made in sites too

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severe for any known camellia, e.g. open fields in eastern Pennsylvania. This testing project was terminated in about 1970 with little useful data coming from it.

From 1967 to about 1972 the original plants bred for hardiness, or cuttings propagated from them, were moved to Chapel Hill and planted in trials at the North Carolina Botanical Garden. Later, all trials were moved to our garden, Camellia Forest. Floral and vegetative records were taken from each plant each year and individuals were discarded as it became clear that they were not hardy or did not have other horticultural merit. Each year the harder individuals were kept for further observation. The data obtained was used as a basis for making horticultural and hardiness selections among the large number of individuals brought from Los Angeles.

We continued to take data and select the best clones until the mid-1980s, but we made no effort to introduce any of these selections because all selections were vegetatively hardy until that time. In December 1983 everything changed with the damaging Christmas freeze followed a year later by the much more devastating "-9" of January 1985. For the first time since we had

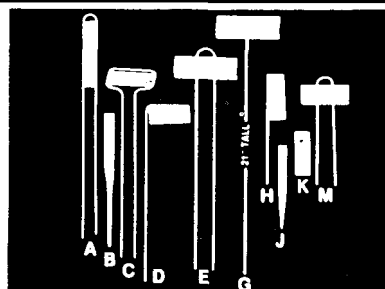
worked with camellias we saw substantial selection for vegetative hardiness in *Camellia japonica*. Dr. Bill Ackerman (1977, 1978)² had likewise discovered the hardiness of *C. oleifera* and its hybrids after the heavy freezes in Washington in the late seventies. Among the thousands of spring-blooming camellias outplanted in our trials, only a small percentage of individuals of *C. japonica* had surviving wood above the ground level, and only one plant made a very feeble effort to open a few flower buds in the spring after the freeze (60-0-22, see Fig. 1).

By mid-March of 1985 the garden looked as if a fast-moving fire had passed through it, but a pattern was emerging. The *C. oleifera* individuals and their hybrids survived as they had at the National Arboretum some years earlier, and some clones of *C. japonica* had survived with varying degrees of living leaf and stem tissue. Data was taken on all individuals in the garden, but with 1985 the yearly survey was discontinued since we felt that we had accumulated adequate information. Although almost all camellia plants regenerated from the roots, plants frozen to the ground were discarded unless there was some important reason to keep them. Essentially, the project started in Los Angeles ended with the data taken after the freeze of 1985, but much has been learned and we do have some selections with hardiness potential. The remainder of this article is a summary of our general findings on cold resistance including sources of hardiness and our thoughts on the direction hardiness breeding should take.

COMPONENTS OF COLD HARDINESS IN CAMELLIA

Based on our observations of hardiness response over many seasons, particularly in 1984 and 1985, it is possible to make some general statements concerning winter tolerance in *Camellia*. First, hardiness has two partially separable components; floral and foliar. While the floral and foliar components seem to be associated to some degree, the actual amount of genetic association of the two hardiness characteristics is uncertain. Comparing the floral and foliar hardiness patterns of the two most commonly cultivated *Camellia* species, *C. japonica* and *C. sasanqua*, will illustrate the separation of these two traits. These two have generally similar vegetative hardiness in central North Carolina, but the flower buds of virtually all *C. japonica* varieties will withstand much more cold than the hardest variety of *C. sasanqua*. The cultivars of *C. vernalis*, which have been shown to be *C. japonica* x *C. sasanqua* hybrids (see discussion by Tanaka, et al., 1987)⁵ are also adequately vegetatively hardy in our area, but their flower bud hardiness is intermediate between the putative parent species. Since it appears from this and many other observations that there is a range of floral responses not genetically associated with vegetative hardiness, we will discuss the floral and foliar response as two separate topics.

Vegetative Hardiness. Based on the hardiness behavior of widely-planted cultivars after exposure to the winters of 1984 and 1985 and also the behavior of replicated plantings of the same seedling clone in my Chapel Hill garden, we conclude that vegetative hardiness response has a significantly high heritability, that is to say, winter tolerance is under significant genetic control. This is very good news because it means that a hardy variety can be expected to perform well season after season. However, there will be variation from year to year because winter patterns are different in different localities, and no two winters in the same locality are alike. These climatic differences obscure the hardiness response of the plant. Nevertheless, a plant selected for vegetative hardiness in one locality will usually tend to perform better under a broad



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range of garden conditions over the camellia belt than another variety with no history of winter tolerance.

How do environmental factors modify the expression of hardiness? Some of the obvious ones are listed below, and are, for the most part, well known to the growers of camellias as well as other plants.

1. *Plant health.* Any plant in poor horticultural condition, for any one of many reasons, will have a more erratic, less predictable response to cold.

2. *Soil moisture at and before the onset of cold.* Plants experiencing soil moisture stress during cold weather are often more severely injured than plants of the same variety growing side-by-side with adequate soil moisture. The need to keep plants adequately watered during cold weather is well documented in the horticultural literature. Plants adequately moist at the time of cold exposure after a period of moisture stress may also not express their maximum cold hardiness potential. For example, camellias growing in moist soil during winter cold after a severe autumn drought may suffer greater winter injury than others never exposed to the dry autumn conditions. Thus, it is not only necessary to keep plants moist during winter cold, but it is also necessary to provide adequate moisture during the summer and autumn seasons previous to the onset of winter.

3. *Exposure to wind, sun and low humidity.* Cold damage to camellias and other broad-leaved evergreens will be greater to plants with direct exposure to the wind, high levels of sunlight and low humidity while temperatures are below freezing. Damage will be proportional to exposure and the minimum temperatures experienced. Most of our standard recommendations to gardeners for locating camellias in protected, shaded localities in the landscape are related to protection from winter cold, not to concerns over damage from the summer sun. (In southern Japan *C. japonica* and *C. sasanqua* grow happily in hot, exposed sites in the wild state.)

4. *Temperature fluctuations.* Hardiness response is maximized by gradual and prolonged cooling before severe cold. In the late seventies camellias in central North

Carolina were exposed to temperatures down to -1°F , but plant damage was minimal because severe cold occurred after gradual prolonged cooling. On the other hand, a minimum of $+2^{\circ}\text{F}$ did great damage to camellias in the Christmas freeze of 1983 because it happened suddenly after weeks of mild weather.

5. *Complex response.* Certain genetic traits not directly involved in cold hardiness may express in such a way that hardiness is modified. For example, the tendency to leaf out (flush) early or later in the spring is under some genetic control. In areas such as ours with late frosts the varieties with the tendency to leaf out later will be spared foliar injury from late spring frosts. Thus, the tendency to remain dormant longer indirectly improves hardiness performance. There are numerous other similar examples.

The above environmental and genetic variables can profoundly modify the response of a given cultivar to a very large degree. From a practical point of view, it is obvious how a gardener can maximize hardiness by manipulating the environment to the limit possible.

Floral components of hardiness.

There is reason to believe that floral hardiness is as strongly inherited as foliar, but since the duration of flower opening, once initiated, is short and always subject to frost injury at or near the time of bloom, the impact of cold on individual flowers is very great. In our experience the same variety will react the same way to the same cold pattern in different years; however, because the weather and climate vary so, it will seem to behave differently in different places and years.

A very important contribution to our knowledge of floral hardiness stems from the painstaking work of Mr. Wendell Levi (1972)⁴. He monitored and reported on floral performance in his garden over many seasons, and for years his work has been the basis for varietal selection by gardeners in the midsouth. His recommendations break down at the northern end of the range because he could not select for vegetative hardiness in eastern South Carolina; nevertheless, his recommendations

for flower hardy varieties for the middle camellia belt are still very reliable.

A trait not directly determining hardiness, but involved in hardiness performance, is flower bud dormancy. Bloom season (early, mid or late) is strongly determined by the depth of flower bud dormancy, which is determined by the amount of cold required to break dormancy (chilling requirement). This trait is under strong genetic control, and plants with a strong chilling requirement will tend to bloom late in the season. Thus, these varieties will be dormant during winter cold and flower in the mild days of spring. These varieties are protected by dormancy during cold weather; however, such varieties may flower so late that flower quality is harmed by warm spring weather. Late bloom, therefore, may be a mixed blessing. Flower bud and leaf bud dormancy patterns seem to be largely independently inherited.

Another example concerns the doubleness of flowers. Double-flowered varieties with the same parentage as single varieties tend to show statistically greater winter injury to flower buds than their single-flowered relatives. This may be due to the larger amount of undifferentiated tissue in the bud of the double flower which is more susceptible to cold damage than the differentiated tissues in the single flower bud. The greater hardiness potential of the single flower is pro-

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bably not due to any different hardiness potential imparted by the genes for flower form, but rather the different developmental processes occurring in double and single flowers.

Thus, flower bud hardiness can be only measured in a meaningful way by observing and recording the performance of a given variety in several locations for several seasons. The resulting, more statistical, repeated observations will provide the most reliable basis to predict general garden performance.

BREEDING CONCERNS

Camellia germplasm collections.

From the discussion of the components of hardiness it should be clear that we have in *Camellia* a large range of genetic variation for winter hardiness. This hardiness is found both in cultivars and in collections from the wild state. In order for the breeder to make progress by recombining the existing hardy strains to create new improved varieties, he must have at his disposal collections of both the wild collections and the best cultivated forms. This broad collection of camellias is known as a camellia germplasm collection and breeders of every different plant group always concentrate on developing a germplasm collection for the species with which they work. With camellia, which is a large plant, there is no central germplasm collection such as those maintained by the USDA for corn or beans, but there are numerous private and public collections which are variously available for use by breeders.

The first collections were plantings of identified cultivars, such as those at the Huntington Gardens or Descanso Gardens and were available for use by breeders. Our first breeding work involved a systematic attempt to intercross known hardy varieties in these garden plantings. The main limitation of this approach is that only a small percentage of the genetic variation for cold resistance in camellias may be included in cultivar collections since many cultivars may have common genetic roots in similar parts of the gene pool.

About the time we started our work, Dr. John Creech (1961)³ of the U.S. National Arboretum set out on

a series of collecting trips to obtain *Camellia japonica* accessions from the coldest parts of Japan in which it occurs naturally. His trips resulted in a large number of accessions which were made available to us. Much of the collection was established in plantings at Chapel Hill. Most of the individuals in the collection were killed to the ground by the severe cold of January 1985; however, a few individuals survived with no substantial injury and are in good health at the present time. The survivors are being maintained and used as breeding parents. These are to be combined with the horticulturally best cultivars to survive 1985 in order to recombine additional hardiness with improved floral characteristics.

Between 1980 and 1983 we made several trips to Japan to collect the Japanese camellias from their entire range. We visited the sites visited by Dr. Creech and a wide range of other places. Samples from the 5 collecting trips are maintained in our garden, Camellia Forest, but while the plants are in good health, they are planted much too close together. Duplicates of much of the collection are maintained at Kyushu University at Fukuoka City in Japan by Dr. Shunpei Uemoto. Some numbers showed good survival during the winters of 1984 and 1985, but most numbers were not outplanted at that time. We are somewhat surprised to observe considerable hardiness in some collections from the Kobe—Kyoto area of Japan.

In 1982 Mr. John Gallagher and Mr. Barry Yinger informed us that camellias were growing at the northern end of their range on islands off the coast of Korea near the 38th parallel. It seemed that these islands might be colder than any other area in which camellias occur, and thus funds were raised to help Barry Yinger return to collect the island sites. Since the islands were reputed to have very cold winters, we outplanted all seedlings and rooted cuttings in the summer of 1984. During the severe cold of the following winter, the Korean materials suffered little or no damage. Only rooted cuttings with surface roots at the edge of beds showed serious injury. We concluded that this block of Korean japonicas are the hardiest group yet

collected. This accessions from the original trip are now scattered over several private and public collections, but is not being managed in such a way that it can be used to its best potential in developing new, hardier varieties. There has been no organized attempt to systematically field test this collection, so we have distributed duplicate plants to gardeners in the northeast for observation and testing. It is too soon for conclusions, but we have preliminary results that suggest the Korean materials are hardier than standard cultivars of *C. japonica*, such as 'Berenice Boddy'. We have hybridized the new Korean materials with hardy cultivars of *C. japonica*, but these have not flowered yet.

Problems in use of germplasm and hardiness testing. In order to make use of the extensive germplasm collections of camellias that are being accumulated, we must test the germplasm to determine its hardiness, and it must be available for use by breeders. Germplasm collections should be systematically tested for hardiness, disease resistance, desirable ornamental traits, and so forth. Because of the difficulty in interpreting interactions with the environment, particularly for traits such as cold resistance, duplicate tests should be conducted in different localities for several seasons. Also, plantings should be made in milder climates where breeders can make hand pollinations every season. A test at Washington, D.C. will provide valuable information on hardiness, but it will be the rare year in which a breeder can make hand pollinations successfully out-of-doors at Washington. For breeding purposes it is important to have breeder plants of the hardy wild forms because they are often more seed fertile than double-flowered cultivars in cultivation. It must be stressed that in order to select dependable, hardy new cultivars, tests must be set up so that observation goes on for several years before introduction. For example, currently we are trying to upgrade the hardy *C. sasanqua* x *C. oleifera* hybrids by backcrossing the F₁ to *C. sasanqua* cultivars with showy flowers. It will be at least 1998 before we can make statements about the hardiness and horticultural usefulness of crosses made in 1988.



Fig 1. Six hardy *Camellia japonica* selections being considered for introduction.

*This single-flowered cultivar has been selected because of its excellent bud hardiness and dependable winter bloom. It will be named 'Spring's Promise'.

We follow a two-step testing process in selecting for hardiness of either germplasm or new hybrids. The propagant, seedling or cutting, is outplanted in a situation that has favorable horticultural conditions. It is then observed for floral and vegetative qualities and hardiness. The great majority will be quickly realized as inferior and quickly discarded. Those individuals that are horticulturally desirable and hardy after the initial few-year test period are propagated for the next stage of testing. In the second stage the test plot is again a favorable horticultural site, and selections from the first stage are replicated at least three times in the second stage test. If it can be arranged, the second stage test is replicated in more than one locality. Plants of whatever origin (cultivated or wild sources) that perform well in both tests are maintained for breeding stock, e.g. many Korean selections are now being grown out in our garden for use as breeding

parents. Of course, new hybrid seedlings which performed well in both tests are candidates for introduction. **More on the hardiness breeding initiated at LASCA.** After the severe cold of 1985, we attempted to select the best from the large number of intrajaponica hybrids generated at the Los Angeles State and County Arboretum. In making selections we use the following general criteria:

1. Must have demonstrated good hardiness in 1984 and 1985.
2. Must have a history of good flower bud hardiness and minimal floral cold injury.
3. Must not show dieback lesions or decline when grown under good garden conditions.
4. If it is late blooming, blooms must hold up well during the warm days of late spring.
5. Must be easily rooted from cuttings.
6. Must have a bloom that is ornamental under garden conditions, but specific floral traits are not im-

portant. We are always looking for hardy doubles, but while these are less common we have been able to select some.

To give examples of some typical selections, six are pictured above. These are numbers which conform to the above criteria and are being considered for introduction.

It must be remembered that cold hardy selections being grown at the northern end of the range will have good and bad years depending on winter conditions and the average time of bloom of the cultivar. While no selection is foolproof, we are convinced the newer selection will perform better on the average and in most years than older cultivars not specifically selected for winter resistance.

Genetic information on hardiness. Some genetic patterns are emerging from the data we have been accumulating since 1968, and while a discussion of that is beyond the

scope of this article, we want to state that the flower bud hardiness data will be dealt with in great detail in a later paper. There is one very encouraging pattern that is emerging, and that is the tendency for certain crosses to produce a higher percentage of hardy seedlings. This is particularly exciting because it tells us that we have a strong genetic component in the control of winter hardiness. We noted, that while recording survivors of the freeze of 1985, that certain hybrid identification numbers kept appearing on our data sheets, and two of these are as follows:

60-0

('Berenice Boddy' x 'Kumasaka')

102-F

('Berenice Boddy' x 'Dr. Tinsley')

Many individuals in the hybrid progenies from these two crosses are much more cold hardy than the parent cultivars. There is segregation for hardiness in these progenies with some outstanding individuals being produced. In other progenies with different parents few useful offspring have been identified. Therefore, we are finding that some crosses are producing a higher percentage of useful progeny. This kind of information will give us clues for hybrid combinations that should be made in the next round of crossing.

Cold hardiness in nonjaponica camellias. So far much of our discussion has centered around the most commonly cultivated *Camellia* species, *C. japonica*. There are other species with hardiness potential, but little is known of them. In the late seventies Dr. Bill Ackerman discovered the hardiness of *C. oleifera* (1977,1978)^{1,2} after a particularly cold winter killed much of the *C. japonica* collection at the National Arboretum. It was not until 1985 that we observed the superior hardiness of *C. oleifera* in central North Carolina although we do have large *C. oleifera* hybrids bred long ago for other purposes. At present we do not have enough test data to determine whether *C. oleifera* or *C. japonica* has the greatest potential for hardiness. We recently collected *C. oleifera* from a rather cold area in China (Lushan, Kiangxi), but until we

have comparative test data, there is no way of knowing if the Korean japonicas are as hardy as the oleiferas from east central China. In any case, from a horticultural point of view the two species are complementary since the *C. oleifera* hybrids are fall-blooming, and *C. japonica* is spring-blooming.

There are a number of other Chinese species which the Chinese report to have superior hardiness, but we have no data yet to verify these suggestions. *Camellia cuspidata* grows at the northern end of the natural *Camellia* range in China and is known to be moderately cold hardy. The English have had very good results culturing *C. cuspidata* out-of-doors. In my experience it is slightly less hardy than *C. japonica* or *C. oleifera* but adequately hardy for the garden. The tea plant has great variation in hardiness, but some strains of the small-leaved tea seem to be as hardy as *C. oleifera*. Three poorly known species from China, *Camellia chekiangoleosa*, *C. grijsii* and *C. octopetala*, have been mentioned to be hardy, but, in preliminary tests, *C. grijsii* did poorly while *C. octopetala* looks OK after two mild winters. Our material of *C. chekiangoleosa* is too limited for field testing yet. Hybrids involving these species are not available for testing. Here there may be several potentially hardy species upon which studies have not yet begun.

Where do we go from here? It seems to us that the introduction of the *C. oleifera* hybrids and the new *C. japonica* selections offer a step forward in the hardiness game; BUT,

with the limited amount of testing done to date, we really do not know the relative hardiness of many of the cultivars that are being recommended for planting in colder areas. We desperately need test plots to accurately determine varietal performance. Garden observations are certainly useful but do not replace the need for accurate test data.

We need to intercross our new Korean germplasm with our hardiest named varieties to obtain the next generation of hybrids for testing. The potential hardiness of the new introductions from China needs to be explored to determine if these species have hardiness potential.

We feel very encouraged when considering the hardiness potential of the newer camellia introductions. We have more desirable breeding stock available than at any time since the onset of our work with camellias; however, without test data on our germplasm, our work will lack direction and efficiency.

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Heat and Cold Tolerant Camellias

Leslie Riggall*

It would appear that South African experience would limit this article to information concerning only heat tolerance in camellias. But I have cultivated camellias in three climates, cool-temperate, warm-temperate and sub-tropical, and so can offer also some observations on cold tolerance. And as we have a dry winter, with three months of continuous sunshine and no rain, we have plants which have certainly proved to be drought resistant.

Taking this group first, they are some dozens of old japonica camellias, which have been found on various pieces of residential land which I have acquired to establish the Fern Valley Botanic Garden. Neglected for years, they survived regular long droughts without any attention whatsoever. It is certain that they all came from Europe, the majority from England, which has a cold damp climate. The cold damp winters of England would be a very great contrast with the dry sunny winters of Natal, and from my experience I would say that *Camellia japonica* is the most tolerant of climate variations among all the more ornamental species in this genus.

Unfortunately I do not know the names of many of these japonicas with cast-iron constitutions, but I have identified 'Mercury' (a splendid

camellia), 'Iristori', 'Ezo-Nishiki' (introduced and known as 'Tricolor'), 'Trionfo di Loddi', 'William Bull' and 'Uso-Otome', which from Europe would have been introduced as 'Frau Minna Seidel' and was named 'Pink Perfection' in America. But this German name was dropped in South Africa, probably during the First World War, and the name now used is 'Maiden's Blush'. This is interesting because it is the same in meaning as the original Japanese name.

The most striking in colour among these old camellias is an unidentified japonica with very dark maroon-purple flowers shaped like a double hollyhock ('*Althaea rosea plena*'). Probably it dates back to the turn of the century, and the habit is fastigate, twenty feet (6 m.) high. Can anyone name this for me? Another old camellia of which I would very much like to know the name I found in a botanic garden and it is very unusual. The waxy petals are the most tightly convoluted I have ever seen, making a solid ball of hundreds of twisted petals, blush pink shading to white at the edges, and with numerous small markings in shades of crimson. Of moderate size, the flowers last longer than any other and, thus, are perfect flowers for a button-hole or corsage.

But the toughest and most consistent performer among these neglected camellias is undoubtedly 'Elegans'. It stands the harshest treatment and we can find an 'Elegans'

flower in our garden on almost every day of the year. No doubt its very valuable tolerance of varied climates would be found in most of its very beautiful sports, such as 'Elegans Champagne', 'Elegans Splendour', 'Elegans Supreme', 'C.M. Wilson', 'Hawaii' and 'Snow Chan', all of which are thriving in South Africa.

All of the above must be tough plants, tolerant of climatic extremes and neglect. Other japonicas which have done well in my three climatically different gardens are 'Alba Plena' (introduced from China to England in 1792. The Chinese name means, "white camellia from overseas", so presumably it originated in Japan.) 'Adolphe Audusson', 'Altheaflora', 'Apollo' (the original true 'Apollo', with formal double red flowers, not 'Paul's Apollo'), 'Compton Brow', 'De Notre', 'Donckelarii', 'Eugene Lize', 'Fimbriata' (although unfortunately it reverted completely to 'Alba Plena' when moved from Portugal to Africa. I had a white 'Masterpiece' which changed to soft pink in Africa. The strangest feature of these transformations is that every flower changed to the new type, and not one of the old type flowers has ever appeared in Africa). Other adaptable camellias are 'Imperator', 'Jubilee', 'Jupiter', 'Kimberley', that fellow-traveller of 'Alba Plena' in 1792, 'Variegata', and the Italian spiral camellia 'Vergine di Colle Beato' (Madonna of the Sacred Hill), a good formal white but not spiral here.

However, I recommend half-shade, or better still dappled shade, for japonicas in all climates. Plants of the forest, they thrive better and look better under trees, which protect them from both heat or cold.

Reticulatas and sasanquas are not so tolerant of cold as japonicas, but more tolerant of heat. They take full sun here, but not in the arid areas with no summer rain. In an arid climate camellias should not be grown at all. But they would always need half-sun to thrive and flower well. *C. reticulata* appears to be the best species in African conditions. Therefore it should thrive in the warmer areas of Australia, New Zealand, Southern Europe and America, and it has in fact been the most successful species in those areas. If winter temperatures fall to 14°F (-10°C) or lower, *C. reticulata* and *C. sasanqua* should not be grown in the open unprotected, it will only lead to disappointment.

Turning to cold tolerance, *C. japonica* in all its thousands of forms is the outstanding ornamental species. It is hardier than *C. rusticana* (the snow camellia), which requires protection buried under snow in severe weather, just as the Eskimo could not survive without his house of snow. Of the very cold-resistant varieties of *C. japonica*, 'Kitty' is probably the hardiest. When I visited Lilette Witman many years ago she had suffered during the winter a terrible blizzard which had ruined her camellias. All the flower-buds on every variety except one were killed by the searing cold winds. The one exception was that very charming variety 'Kitty', which flowered normally. What a pity it is, that as a formal double it cannot be used for cold-hardy breeding, or at least until we can breed entirely new strains by cell fusion in laboratories.

The U.S. Department of Agriculture has developed a cold-hardy japonica variety named 'Frost Queen', while William Ackerman created 'Frost Prince' and 'Frost Princess', both hybrids of *C. oleifera*, to which I shall refer later. He has since produced six more cold-hardy varieties, 'Snow Flurry', 'Winter's Hope', 'Winter's Charm', 'Winter's Star', 'Winter's Rose' and 'Polar Ice', but they are not yet available generally.

The Williamsii hybrids (*C. japonica* x *C. saluenensis*) like a cool climate, and are not good in South Africa. They would be unhappy in hot areas such as California and the southern states of the U.S.A., or Australia, but have the valuable attribute of flowering in cool very cloudy climates, where there is not enough sunshine to enable japonicas to flower. For example, on the island of Gigha off the very cloudy moist west coast of Scotland, Williamsii hybrids are the only camellias which flower. They would perform well in foggy San Francisco but not in sunny Los Angeles.

I have been very interested in the performance of camellia species other than those widely grown in gardens, and all of them seem to be heat tolerant. The magnificent *C. granthamiana*, which almost became extinct in its natural tropical Hong Kong, obviously tolerates heat, and it enjoys full sunshine also. But the restrictions regarding low temperatures applied to *C. reticulata* and *C. sasanqua* and detailed above, would apply to *C. granthamiana*.

All the species I grow, except two which I have proved to be intolerant, tolerate full sun in my sub-tropical climate, and strangely the two exceptions are both tropical, *C. hongkongensis* and *C. chrysantha*, to which I would add *C. chrysantha macrophylla*, now believed to be *C. euphlebica*. The leaves of these three tropical camellias burn in full sun, and they must be grown under trees.

For all except cold gardens I consider that the following species should be in every collection. *C. crapnelliana* was also a near miss for extinction. Only one tree was found in Hong Kong in 1904, and when it disappeared it was saved from extinction by those who had collected and germinated seed from it. The seed pods are the largest in the genus and the beautiful bark is orange. *C. gigantocarpa* seems to me to be the same species. It must never be grafted as it is incompatible with other species. It grows well for a year and then suddenly drops dead. But there is no problem as it grows well from cuttings.

C. dubia has small but very pretty flowers which are fragrant. *C. fraterna* makes a very attractive bush.

The foliage has a silvery cast and the habit is semi-weeping. *C. hiemalis* is usually classed with sasanquas and is equally heat and sun tolerant.

C. lutchuensis is outstanding for fragrance. The white flowers and buds have a pretty red or pink spot, and the new leaves are tinged red or pink. Give it plenty of space as it grows slowly into a forest tree.

C. maliflora is attractive, especially the double form known as 'Betty McCaskill'.

C. oleifera (*C. drupifera*) is not attractive but is important both to commerce and horticulture. It bears many red-tinted fruits and the seeds yield a most valuable high-quality oil, used for many purposes including cooking and cosmetics. Its value and interest to horticulture resides in its being one of the world's most climatically tolerant plants, equally satisfied with tropical heat or freezing cold. I mentioned two cold-hardy hybrids of this species, and there will be many more eventually for gardens which are too cold for *C. japonica*. Another remarkable attribute is its resistance to the root-rot fungus *Phytophthora cinnamomi*, which makes it a useful alternative grafting stock in climates too cold for sasanqua, which is normally used because it is resistant to root-rot.

C. rosaeflora is quite charming and pleases everyone who sees its dainty pink flowers. *C. salicifolia* has insignificant flowers but very attractive foliage and habit.

A favourite for me is *C. tsaii*. The dainty fragrant white flowers come in sprays, and the long, narrow, wavy, bronze-tinted leaves give it an air of grace and distinction.

All of the species described above are heat and sun tolerant and all are worthy of a place in the garden.

With all this genetic material available hybridisers will eventually produce camellias for all except the most extreme climates, such as arctic or desert climates. Even if we take only two species, *C. japonica* and *C. reticulata*, hybridising between these should eventually produce a range of beautiful hybrids which will accommodate the needs of most growers, whether they require heat-tolerant or cold-tolerant camellias.

Jean and John Comber and Dotty ▽ and Tom Evans en route to Callaway Gardens on the Thursday tour. Jean is serving as Publications Chairman and Tom is a Director of the Endowment Board and President Emeritus.

(Photo courtesy of Carl Allen, Jr.)



AT THE DEDICATION...



Spencer Walden, ACS Δ Endowment Board Chairman Emeritus, Annabelle Fetterman, Immediate Past President and Tom Evans, Past President, enjoy a conversation just before the banquet on Saturday evening.

(Photo courtesy of Carl Allen, Jr.)

Al and Vera Parker at the ▽ Wednesday Dinner hosted by the Middle Georgia Camellia Society. Al is the Director from Oregon-Washington. The Parkers served as chairmen of the ACS Convention in Portland in spring 1987.

(Photo courtesy of Greg Davis)



Alvin Johnson is entertaining Elizabeth Murph ▽ (now Mrs. Scheibert) and Dave Scheibert at a surprise reception held in their honor by camellia friends. To the left Maggy Bush and Al Breeland enjoy one of Alvin's stories. (Photo courtesy of Greg Davis)



◁ From left to right, Otis Gunn, Frank Cosentino, President of the Boehm Studios and Jeannette Gunn admire the 'Emmett Barnes' Centerpiece that the Boehm Studio presented to the ACS in honor of Emmett Barnes III. (Photo courtesy of Greg Davis)

◁ Past President James (Tubby) Habel and Helen Boehm at the Barnes party and Buffet Supper on Friday. (Photo courtesy of Greg Davis)

Annabelle Lundy Fetterman Educational Museum

◁ From left to right Marilyn Tarpy, Rachel Tarpy, Evelyn Abendroth and Helen Boehm, Chairman of the Board, Boehm Studios. Rachel Tarpy was the proud winner of the Boehm camellia 'Cherries Jubilee'. (Photo courtesy of Greg Davis)



◁ President Hal Rambath, Chic Rambath and Nancy Mandarich enjoy a rest at the Friday evening party at the home of Edwina and Emmett Barnes III in Macon. (Photo courtesy of Greg Davis)



△ President Hal Rambath and Dan Nathan, Arboretum Chairman, at the Saturday Banquet. (Photo courtesy of Carl Allen, Jr.)



△ Long time supporters of the ACS are Kathryn Allen, Vice President, Atlantic Coast; Les Marbury, Charter Member and President Emeritus and Edith Mason, Director-at-Large, Atlantic Coast. (Photo courtesy of Carl Allen, Jr.)



△ Edith Mazzei, Vice President Pacific Coast, Milton Schmidt and Jack Lewis enjoy refreshments at the party honoring Pres. Hal Rambath. The hosts were California ACS friends. (Photo courtesy Greg Davis)

The Study of Golden Camellias

(Section *Chrysantha* Chang)

XIA Lifang, ZHANG Aoluo
and
GUAN Kaiyun

(Kunming Institute of Botany, Academia Sinica)

Preface

Golden camellias (section *chrysantha* Chang) are rare ornamental plants which were found in the southern part of Guangxi Autonomous Region in the 1960's. There are thousands of camellia cultivars with purple, red, pink and white colored flowers in the world but none of them are yellow. Golden camellias received a great deal of notoriety soon after they were discovered. A comprehensive study on golden camellias has been done in China since the 1960's. After many years of investigation and study, the species and geographic distribution of golden camellias were understood. Studies of introduction, cultivation and breeding of golden camellias also have been done at the Kunming Institute of Botany, Academia Sinica and some gratifying achievements have been obtained.

I. The Species and Geographic Distribution of Golden Camellias in China

According to our investigation and present information, there are 24 species of golden camellias in the world. Among the species in the world, 22 occur in China of which 20 species are endemic, 4 species occur in Viet Nam and 2 are endemic (1) (2). The species in China are mainly distributed in the southern part of Guangxi Autonomous Region except for two species which occur in Yunnan province and Guizhou province. The species from Viet Nam are distributed in the northern part of the country. Geographically, all the species of golden camellias are distributed in one area except one species from Guizhou. The species of

golden camellias are distributed in 14 counties and cities which are located at 21°30'-23°40' N and 106°40'-108°35' E, i.e., Fangcheng, Ningming, Pingxiang, Longzhou, Chongzuo, Fusui, Daxin, Tiandeng, Yongning, Nanning, Long'an, Wuming, Pingguo and Tiandong. In the wild, 13 species grow in limestone soil and 7 species grow in red soil. In terms of sheer numbers, there are two especially rich areas. One of these is Fangcheng County, and the other is Longzhou County. In terms of the diversity of species, there are two places in which the plants are most concentrated. One place is Longzhou County, where 9 species are distributed. Another place is Fusui County, where 7 species are found. The vertical distribution of golden camellias is usually below 700 meters above sea level. Most of the species are distributed in the altitude between 200 to 500 meters, while the species from Guizhou, *Camellia luteoflora*, is distributed in the altitude range of 900-1060 meters.

II. The Ecological Habits of Golden Camellias

Golden camellias normally grow in primitive forests in the forms of shrubs and small trees. Thus, they have an inclination for warmth, humidity and shade. All the species of golden camellias can be divided into two types according to their characteristics. One type grows in limestone soil and the other type grows in red soil. The species which grow on red earth hills are normally distributed along valleys and streams while the species which grow on rocky hills are often distributed in lowland areas and humid hillsides. None of the species can tolerate direct sunlight. The leaves of the plants growing in open areas turned yellow. The suitable illumination for the species of golden camellias is 320-600 lux. The plants can grow

normally even when the illumination is 100 lux. The natural habitat of golden camellias has abundant rainfall. The annual rainfall is from 1298.8 to 1700 mm or more. Thus the humidity in the forest is usually about 77%. The annual average temperature is 21.5°C, the lowest is 0°C and the highest is 37°C. The most suitable temperature for the growth of golden camellias is 23°C-30°C.

III. The biological Characteristics of Golden Camellias

In the wild, vegetative growth of young plants occur three to four times a year, mainly in Spring, Summer and Autumn, seldom in Winter. Vegetative growth of adult plants is biannual. The new twigs and leaves are usually dark purple.

Golden camellias can be divided into large flower types and small flower types. Those species with inner petals larger than 1.6 cm are considered as large flower type while those with inner petals smaller than 1.5 cm are considered as small flower types. The species classified as large flower types are mostly small trees, such as *Camellia chrysantha*, *C. pubipelata* and *C. impressinervis*. Those species regarded as small flower types are normally shrubs like *C. limonia*, *C. flavida* and *C. pinggouensis*.

All the flowers of the golden camellias are yellow but the color may range from light yellow to golden yellow.

The flowering season for most golden camellias is from the end of winter to early Spring. The season of early-flowering species is from September to January of the next year, while the season of the late-flowering species is from January to April. One special species is *C. ptilosperma* which has an extremely long flowering season. Its flowering season is from May to November. The full blooming season is from July to

August. It provides a new gene type for breeding new camellia cultivars which bloom in summer.

IV. Introduction and Cultivation

The introduction and cultivation of golden camellias at the Kunming Institute of Botany has been going on since 1966. In that year, the plants of golden camellias were first introduced from Tangluo Xiang in Nanning. In 1977, some grafted seedlings were obtained from Wutang of Yongning County and Fangcheng County. The collections of seeds, scions and grafts have also been carried out since 1966. There are now eight species of golden camellias growing in the Kunming Botanical Garden. A gene bank of golden camellia species was established in Nanning by the Horticultural Bureau of Nanning City and the Nanning Arboretum, Forestry Department of Guangxi Autonomous Region. Twenty species and varieties of golden camellias were collected and cultivated in the gene bank. The gene bank provides very good conditions for the study and protection of golden camellias.

As mentioned above, golden camellias have an inclination for warmth, humidity and shade. So shelter should be built when introducing golden camellias. Within the shelters, keep the highest temperature not more than 32°C and the lowest temperature not lower than 5°C and keep the average temperature from 21°C-24°C. The soil for cultivation of golden camellias should be rich in organic matter and well drained.

The following methods have been used in the introduction of golden camellias:

1. *Transplanting*: Select some healthy plants which have already bloomed or are near blooming, or some small seedlings to be transplanted. Transplanting should be done with soil since golden camellias are deep-rooted plants. The main root is well-developed but there are very few lateral roots and fibrous roots. The suitable time for transplanting is from February to May and from October to November.

2. *Layerage*: Select 2-3-year-old erect branches and peel the bark in ring-shapes. Use local soil mixed with water and use plastic film for binding. It can root within six

months. The survival rate is 100%. The layering plants can bloom in the same year or the next year.

3. *High-headed Grafting*: Use *Camellia oleifera* as stock for high-headed grafting. It can flower in 2-4 years after grafting.

4. *Cuttings*: Usually it is better to select the branches which grow robustly during the stages of semi-xylemization and initial xylemization. The xylemization of golden camellias usually occurs from May to November. The cuttings should be about 6-10 cm long and the base of cuttings must be cut at a 45° angle. Soak cutting base in a solution of 200-500 p.p.m. NAA. An 85% rooting rate can be obtained.

5. *Grafting*: Cleft grafting was used. The grafting season is usually from May to August.

6. *Seed propagation*: Golden camellia seeds can be sowed immediately after harvesting. The seed can grow a radicle during the same year and can grow plumules in the spring of the next year when sown in open ground. The seeds for spring seedling can be protected by using wet sand.

V. Breeding

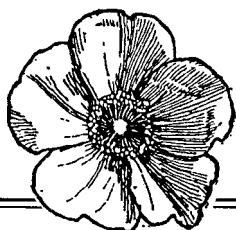
The interspecific hybridization breeding using golden camellias as parent plants has been going on since 1973 at the Kunming Institute of Botany, Academia Sinica and some hybrid seedlings were obtained. During our experiments, we found that some external morphological characteristics of parent plants can be seen from the first generation. For example, the cotyledons and the germinating embryo buds of golden camellias are purple, while the cotyledons and the germinating embryo buds of other species like *C. reticulata*, *C. pitardii* var. *yunnanica* and *C. japonica* are yellowish-green. In the hybrid combination using golden camellias as the male parent, 50-65% of cotyledons of the hybrid seeds are purple. This phenomenon is called seed xenia. The chromosomes of all purple cotyledon plants are $2n=60$ which indicates that they are true hybrids. This hybrid combination has been attained between *C. chrysantha* and *C. reticulata* or between *C. chrysantha* and *C. pitardii* var. *yunnanica*. Of chromosomes of yellowish-green cotyledon hybrids only about 26% are $2n=60$. So it is possible to distinguish whether or not the plants are true hybrids either in the germinating period or at the stage of very young seedlings by telling the color of the cotyledons. All hybrid seedlings with purple cotyledons can be grafted from May to September of the second year after sowing (fall seeding) or in February of the third

(Continued on Page 25)

Table 1.

Species	Distribution
1. <i>Camellia chrysantha</i>	Fangcheng, Nanning, Fusui and Long'an of Guangxi
2. <i>C. chrysantha</i> form. <i>longistyla</i>	Fangcheng and Nanning of Guangxi
3. <i>C. microcarpa</i>	Yongning of Guangxi
4. <i>C. euphlebia</i>	Fangcheng of Guangxi
5. <i>C. tungkingensis</i>	Fangcheng of Guangxi
6. <i>C. chrysanthoides</i>	Longzhou and Pingxiang of Guangxi
7. <i>C. parvipetala</i>	Ninming and Pingxiang of Guangxi
8. <i>C. limonia</i>	Longzhou, Ninming, Chongzuo and Fusui of Guangxi
9. <i>C. limonia</i> form. <i>obovata</i>	Fusui of Guangxi
10. <i>C. longgangensis</i>	Longzhou, Ninming, Chongzuo and Fusui of Guangxi
11. <i>C. longgangensis</i> var. <i>grandis</i>	Longzhou, Ninming and Chongzuo of Guangxi
12. <i>C. longgangensis</i> var. <i>patens</i>	Fusui of Guangxi
13. <i>C. flavida</i>	Longzhou and Wuming of Guangxi
14. <i>C. longzhouensis</i>	Longzhou and Fusui of Guangxi
15. <i>C. impressinervis</i>	Longzhou and Daxin of Guangxi
16. <i>C. pubipetala</i>	Long'an and Daxin of Guangxi
17. <i>C. terminalis</i>	Tiandeng of Guangxi
18. <i>C. pingguoensis</i>	Pingguo and Tiandeng of Guangxi
19. <i>C. ptilosperma</i>	Pingxiang of Guangxi
20. <i>C. quinqueloculosa</i>	Fusui of Guangxi
21. <i>C. euphlebia</i> var. <i>yunnanensis</i>	Hekou of Yunnan
22. <i>C. luteoflora</i>	Chishui of Guizhou

SPRING ACS CONVENTION 1989



James A. Young

ACS conventions are, as a general rule, lots of fun and our trip to Perry was no exception. Expectations were high as we pulled onto I-75 and headed north, mentally double checking to see if we had forgotten to pack anything of importance. The excitement was already in the air as our thoughts drifted to the events of the days ahead and we visualized seeing our many camellia friends and perhaps meeting a few more, whose names were known only to us as notable camellia varieties.

Our first stop was at Old South Nursery in Weirsdale, Fl. to rendezvous with Ray and Hazel Crawford, who were riding with us. A quick switch of luggage and we were on our way again.

Back on I-75, our tires clicked away the slabs, time quickly faded and we soon found ourselves arriving at our destination, none other than Perry, Ga.

The Holiday Inn was already teaming with check-in activity. "Hi, Bill and Donna Shepherd". "Hello, Stuart Watson". "Gee, it's good to see you again". As I greeted them, I began to sense the tremendous spirit of fellowship that would mark this convention from beginning to end.

We began our convention by attending the judging school on Wednesday. Although we arrived

quite early, there was already an impressive crowd on hand and the chit chat was in full swing. Judges school is a lot of fun and it was quite interesting to hear the various opinions expressed as to how the judges interpret the ACS rules. I think a lot of us were looking for clarification on a number of questions and we were not to be disappointed. The speakers, Betty Hotchkiss, Dr. Dave Scheibert, Dr. Herb Racoff, Marvin Jernigan, Helen Bryan and Ann Blair Brown, were all exceptional. Ann Brown assured us that passing the final exam would not be any problem and everyone seemed to agree that she was right. That evening, after a delicious meal provided by the Middle Georgia Camellia Society, we had the pleasure of viewing slides of notable varieties as presented by Marion Edwards. Psst, I hear that 'John Hunt' is the one to get just in case you don't already have your name on the waiting list.

By Wednesday evening, most of the two hundred plus who attended the convention had already arrived. You needed three ears to keep up with all the conversations. The Middle Georgia Camellia Society provided plenty of manpower to make this convention enjoyable for all in attendance. Most impressive was Earl Beatty, Warren Thompson and Cheryl Thompson who were always on hand throughout the convention manning the several cocktail buffets. The entire ACS staff was in high gear throughout the convention coordinating activities and keeping us all entertained.

Thursday morning we boarded buses and ventured to the famous Callaway Gardens enjoying the Georgia countryside as we went. Many pecan groves and peach orchards dotted our path. Small towns, country stores, rock quarries and Dave Scheibert captivated our attention. Upon arrival we were assigned a tour guide who narrated our tour and answered all our questions. The gardens were alive with blooms of many kinds which made the trip well worth while. Our first stop was to see a video, "On Wings of Wonder", which prepared us for our trip to the butterfly center later on. We then visited the John A. Sibley Horticulture center which was an indoor / outdoor garden of sorts,

full of blossoming beauty everywhere you turned. Next, our visit to the Cecil B. Day Butterfly Center was an especially delightful experience of interaction between man and nature. Hundreds of butterflies of every variety, along with several hummingbirds, were literally at our fingertips. After our lunch at the pavilion overlooking one of the gardens several lakes, we regretfully boarded the buses again for our journey back to Perry. Dave Scheibert is to be commended for entertaining our bus with his many jokes and his singing of "I've been working on the railroad".

Back in Perry, we took a short break to freshen up and then we were off again to another cocktail buffet. This one was in celebration of the upcoming wedding of our beloved assistant executive director, Dr. Dave Scheibert, to Ms. Elizabeth Murph.

Friday was a very special day for this convention as it gave those of us who were not involved in committee meetings a chance to sightsee. Buses were loaded and off to Atlanta for a delightful tour of the Carter Presidential Center. Afterwards it was beautiful Lenox Square for lunch and shopping until time to return to Perry. The day's activities in Atlanta, exciting as they were, proved to be just a warm up adventure for what lay in store for us that evening in Macon. On our schedule was a buffet dinner at the home of Emmett and Edwina Barnes.

I had thought about the trip to Macon and in the back of my mind I had picture a quaint home in the suburbs where we would all be gathered for a little party. You know the one. It would be a lot like the homes we visit when we go to camellia shows. They invite us over the evening before the show and make us feel incredibly special. I wondered if Emmett and Edwina knew what they were getting into. After all, we're talking two hundred plus people here. Anyway, I thought, we'll be out on the back porch or something.

As our bus pulled past Dr. Homeyer's home, I was still pretty sure I had things figured right. As we walked up the driveway, where we were welcomed by Emmett Barnes, I was no wiser. It was not until we

were directed to the chapel in the gardens that I began to suspect that something was a little out of the ordinary here. As we approached the chapel, I could not believe my eyes. Here was a real church, set upon a hill, overlooking what I can only describe as a half acre of cascading fountains and leaping streams of water reaching for the stars. So awestruck were we that we didn't know which way to go. "Come in, come in," I heard a voice say and turned to behold an elegant lady with two little dogs neatly tucked in pockets of her apron. With her was another elegant woman. Neither of them seemed to be as lost as we were, so we heeded their beckoning and entered the chapel. The chapel was most beautiful, but our attention was quickly captivated by what appeared to be the unveiling of a statue of Saint Francis of Assisi. At this time, I learned that the two strangers were Edwina Barnes and Helen Boehm and the statue was one of a future Boehm porcelain.

We made our way from the chapel, down the side of the cascading fountains, toward the house and

remarked how this adventure was beyond the scope of anything we had ever seen or experienced before. With this said, we were again greeted by Emmett Barnes, who personally escorted Deanna into the house. It was a full half hour before I found her again. Each room of this unique structure held an adventure. I will not bore you with details of the rest of the evening, but I must acknowledge Emmett and Edwina as perfect hosts. A visit to their little abode is the adventure of a lifetime. Thank you, Emmett and Edwina, from all of us!

Saturday morning, we scooted out to Massee Lane for the dedication of the Annabelle Lundy Fetterman Educational Museum. Here we had the opportunity of hearing Helen Boehm personally address us, talk about Boehm's history, their special relationship with ACS and present us with another beautiful Boehm porcelain for the ACS collection. This porcelain is a beautiful arrangement of 'Emmett Barnes' camellias.

The dedication was followed by a president's reception, where we had the opportunity to get acquainted

with Hal Rambath, our new ACS president. Next thing I knew, someone uttered the magic work, "lunch". As we approached the old barn the aroma of barbecue permeated the air. My mouth watered and I regretted straggling so as to end up near the end of the line. There was plenty of food and we topped it all off with a dish of delicious home made peach ice cream.

After lunch, we assembled again in the new auditorium where we were treated to slide presentations by Betty Hotchkiss and educational programs by soil and disease experts. Yes, an ounce of prevention is still worth more than a pound of cure.

I had mixed feelings about the banquet that evening. I knew it would be another adventure, but I was just a little bit sad that it would mean that this convention was coming to a close. The food was delicious, of course, but the highlight was our sharing of thoughts and fellowship. We made many new friends and, yes, those names like 'Vi Stone', 'Jean Pursel', and 'Rachel Tarpy' do have a little more significance to us now.

November 11-12, 1989

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(See May 1989 issue of *Camellia Journal*.)

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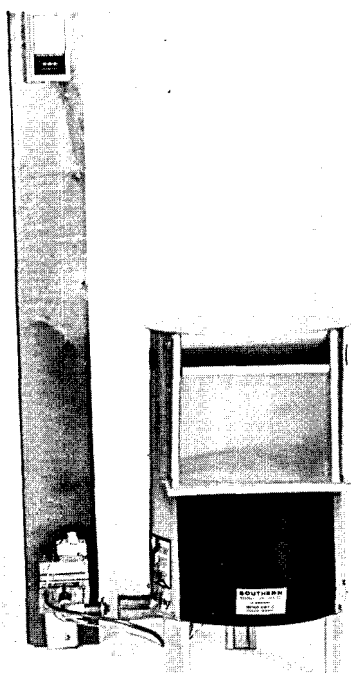


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A NOTE ON GRAFTING CAMELLIAS

Luther W. Baxter, Jr.*
and
Sally B. Segars*

Grafting *Camellia japonica* scions onto *C. sasanqua* stock is a practice that eliminates root rot of camellia, a major problem caused by *Phytophthora cinnamomi*. Most if not all *C. sasanqua* cultivars and seedlings are resistant.

In one camellia grafting study this year (1988-89) using *C. japonica* as scions grafted onto *C. sasanqua* stocks, 191 were successful and 50 died, for a successful percentage rate of 79.2. Only two or three understock put out after the scion died. Laboratory isolations made from dead scions and stocks failed to yield consistently anything that might have caused death. Similar results have occurred in past years with other grafting studies.

Cutting off but not grafting 10 *C. sasanqua* plants and 10 *C. japonica* plants last year in December resulted in 9 of 10 *C. sasanqua* stocks dying while all *C. japonica* stocks recovered. This year 8 of 10 *C. sasanqua* stocks died when they were cut off on December 1, 1988; the other two put out new growth.

Poor grafting percentages and death of *C. sasanqua* stocks not grafted suggest that the poor grafting response may have involved *C. sasanqua* stocks that would have died had they been just cut off.

The nature of sudden death to stocks after cutting off may be due to size of the stock, time of year when stock are cut off, physiological state of the plant at time of cutting off the stock or some other unknown reason. Fall, mid-October to mid-December, may be the time that plants are going into dormancy because of short days and cool nights. This may be the reason that plants die suddenly after cutting them off. Information that may have a bearing on this subject involves barerooted transplants. In December, 1988, two lots of camellias were purchased and planted. The first involved six hybrids of eight each, *C. saluenensis* x *C. japonica*. Surviving were 43 of 48. The second lot involved 50 plants of *C. sasanqua*, 'Jean May'; only 28 survived. All 98 plants were treated in the same way and all were grown in a greenhouse.

Results of studies years ago involving grafts of *C. japonica* scions onto *C. japonica* and *C. sasanqua* stocks gave about 95% successful grafts when *C. japonica* scions were grafted onto *C. japonica* stock. However, when *C. japonica* was grafted onto *C. sasanqua* stock only about 70-75% of the grafts were successful. This study was made over a 3-year period. These results may be related to sudden death of *C. sasanqua* stock caused by cutting the top from the stock (roots and lower stem tissue).

A *C. sasanqua* cultivar, such as 'Jean May', could be used to study sudden death resulting from cutting off the top from the stock. Cutting 10 plants off at monthly intervals might solve the questions whether or not the time of cutting influenced survival. The five months, November through March, would be the most likely time when grafting is done.

*Department of Plant Pathology, Clemson University, Clemson, SC



A view from the parking area of the back of the new Museum. (Photo courtesy of Carl Allen, Jr.)



A partial view of the front of the Annabelle Lundy Fetterman Educational Museum. (Photo courtesy of Carl Allen, Jr.)

PUBLICATION DEADLINES

Articles and advertising for the *Camellia Journal* must be at the Headquarters as follows:

For November issue
September 1
For February issue
December 1
For May issue
March 1
For August issue
June 1

Material for the ACS *YEARBOOK* must be at Headquarters by

August 1



Please type and double space all material for the Journals and Yearbook.

(Continued from Page 21)

year by using cleft grafting or approach grafting. The survival rate of grafting young seedlings is 80-90%. The grafted hybrid plants grow faster than ungrafted seedlings. Grafting is especially important for interspecific hybrid seedlings since they have very poor root systems and easily die when they are small seedlings. So, grafting young seedlings can save some hopeful hybrids and the flowering time can be earlier so that the course of breeding can be shortened.

In some other hybrid combinations like the combination of *C. japonica* x *C. chrysantha* and *C. saluenensis* x *C. chrysantha*, the fruit-bearing rate can be 30-95% and all the fruits develop well within the first four months after pollination. However, the fruits stop growing and gradually fall off after four months from pollination. From the fallen seeds, it was found that the seed coats of these seeds developed well. However, inside these seeds, there was only some white and transparent glue-like substance or nothing at all. The formation of these poorly-developed seeds is because most of the embryos and endosperms stop growth after pollination. If one wants to obtain hybrid seedlings, culture in vitro should be done before the embryo stops growth. It was found that the hybrid embryo between *C. pitardii* var. *yunnanica* and *C. chrysantha* developed well in early stage but stopped growth in the late period of differentiation of plumule which happened at about 90-100 days after pollination. Tissue culture can ensure the normal development of the embryo and thus healthy plants can be obtained. This is extremely necessary in the study of breeding golden camellias.

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Lew Fetterman, Louise Altson and Annabelle Fetterman stand in front of the lovely portrait that Mrs. Altson painted of Annabelle. This portrait is located near the auditorium in the new Annabelle Lundy Fetterman Educational Museum.
(Photo courtesy of Greg Davis)

(Continued from Page 4)

wooden casks full, not of beer, but of this smelly concoction. At home in Maryland we call it the Five M's, Mother Martha's Miracle Manure Mixture.

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

An article entitled "Greenhouse Camellia Culture" by Fred Hahn of Matthews, NC, in the spring, '84 issue of *Carolina Camellias* and *Atlantic Coast Camellias*, edited by James McCoy, 3531 Scottywood Drive, Fayetteville, NC, 28305, hits

the high points briefly in two pages.

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

Camellia dieback is a fungus disease which infests mostly the warm, humid areas of the country and least of all the dry sections, but it can start anywhere and spread rapidly if conditions are favorable.

Loss of dark green sheen or yellowing of leaves causes one to check the pH of both the soil and water supply. Camellias prefer

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

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

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

* Reprinted with permission of Mrs. Douglas Deane Hall from *The Camellia Journal*, Vol. 39, No. 4, November, 1984.

(Continued from Page 5)

climate modifier. But what really makes for a humid climate is the fact that it rains nearly every other day in New Zealand. On the average it rains 183 days a year in Auckland. A camellia hobbyist in New Zealand can dig a hole, put in a camellia and watch it grow. He needs no shade cover, no watering and very little other care. This holds true for nearly every species of camellia grown in New Zealand.

Japan is in the 30 to 40 degrees North latitude zone with long narrow islands separating the Pacific Ocean. Its 25 to 50 mile wide land mass is visited by rainfall every third day and this combination provides ample humidity. Pictures taken of camellias growing in the wild in Japan are usually taken along the sea shore where the humidity is ideal. This does not hold true for southern California. Along our sea shores we do not have the frequent rains which occur in New Zealand and Japan. Salt spray collects on our coastal grown camellias and it is not washed off by rainfall.

The seas around Japan are "bathed" by the warm Japanese current. These ocean currents modify the climate. For example, southern England and Wales, latitude 50 to 53 degrees North (about the same as Calgary and Edmonton, Alberta) will produce camellias in spite of the location because the Gulf Stream modifies the climate. The Island of Guernsey, latitude 49 degrees North (same as our Canadian Border) in the path of the Gulf Stream current, has a climate where camellias are grown out of doors in full sun.

COLOR

The color of the camellia bloom and its foliage will influence sun tolerance. Those with the deepest red blooms are the most sun tolerant. Pinks are more susceptible to sun damage and white camellias are the least sun tolerant. As we have stated, the darker green the foliage the more sun tolerant the plant may be.

CHROMOSOMES

In dealing with chromosomes we are dealing with species. Certain species are more sun tolerant than others. The species which will take full sun and, therefore, is the favorite with landscape gardeners is *C. sasanqua*. Almost all of the varieties of the

species are sun tolerant and they can be planted in full sun. The exceptions are *C. sasanqua* 'Chansonette', 'Pale Moonlight', 'Pink Showers', and 'White Frille'. The next most sun tolerant species are: *C. lutchuensis*, *C. granthamiana*, and *C. reticulata*. The species *C. japonica* is the least tolerant of the popular species seen in our gardens. Hybridizers have chosen to cross the *C. sasanqua* species with *C. reticulata* and with *C. japonica* to make the hybrids more sun tolerant. They have been successful with several crosses which have proved to be popular. It seems safe to state that any hybrid with *C. sasanqua* genes in the cross tends to be relatively sun tolerant.

If our novice camellia hobbyist wants to grow a camellia in his front yard in full sun, he should follow these rules:

(1) Pick out a *C. sasanqua* camellia, or if he wants to have a *C. japonica*, it should be a dark red one with dark green foliage.

(2) Keep the plant which he bought "Because I like the one in the spring Camellia Show" in its container and hold it in a shady spot until Fall. DO NOT plant this camellia or any other camellia in full sun in the Spring of the year. In the Fall he should move the container grown plant into more and more sunlight in easy stages. Then in November or December he should plant this camellia in full sun with a deep mulch around the base of the plant. He should maintain frequent watering. The winter rains and the soft winter sunlight will acclimate the plant and "harden" it to the future summer sun's rays. He should make the climate of the full-sun camellia as much as possible like the climate in New Zealand. Try to maintain as much humidity as possible around the full-sun camellia. One thing to keep in mind about a full-sun camellia is that he will never get a "head table" bloom from this plant.

Herewith is a list of the most sun tolerant *C. japonica* varieties: 'Covina', 'Ace of Hearts', 'Bob Hope', 'Grand Slam', 'Kramer's Supreme', 'R. L. Wheeler', 'Melinda Hackett', 'Flame', 'Magnoliaeflora', 'Drama Girl', 'Silver Waves', 'Blood of China', 'Wildfire', 'Pink Perfection', and 'Debutante'.

ADDITIONAL JUDGES APPOINTED

Terms of all Judges and Novice Judges listed herein expire December 31, 1994.

ALABAMA

Birmingham:
W. B. Hairston, Jr.

Hanceville:
Charles Mann (Novice)

FLORIDA

Clearwater:
Mrs. Mary L. Wilson (Novice)

Gainesville:
Jerome A. Hogsette, Jr. (Novice)

Lake City:
John C. Braun

Ocala:
Harold W. Goforth (Novice)

Odessa:
Eileen C. Hart (Novice)

GEORGIA

Ideal:
Joel Barfield (Novice)

KENTUCKY

Trenton:
Herbert E. Bartle
S. B. Carter, III

LOUISIANA

Baton Rouge:
Will G. Mangham (Novice)

Metairie:
Maddox W. Mizell
Marie Mizell

New Orleans:
Paul R. Huerkamp

West Monroe:
Robert W. Fowlkes, Sr.

MISSISSIPPI

Gulfport:
Mrs. W. Harry Stone (Novice)

NORTH CAROLINA

Wilmington:
John B. Codington, Jr. (Novice)
T. E. Powers
Lou B. Powers

TEXAS

Conroe:
Jane Carroll (Novice)

Erratum

"Notes From the Horticulturist", May 1989, was inadvertently confused at the printer. Column 1 should proceed directly to the 20th line on column 2 and continue to the bottom of that column. Then the top 19 lines of column 2 should immediately precede column 3. We apologize for the inconvenience.

New Roster

A new camellia roster will be assembled after August 31, 1989 and available late in 1989. Be certain that we have your correct address and particularly any zip code changes.

Growing Camellias at Barnard's Inn Farm

Mrs. Julian W. Hill

Camellia japonica

Outdoor camellia growing in zone 6 is iffy business; but since 1975 for 30 some years, I have been trying to do it. My garden is on Martha's Vineyard about four miles off the southern coast of Cape Cod. We experience freezes and thaws from some time in November until June. Prolonged drought through June, July and August is to be expected. Species not accustomed to these conditions, i.e. non-native species, react in individual ways to these stresses.

There are no known cultivars of *Camellia japonica* that are reasonably reliable. 'Kumasaka' comes closest. On the other hand, I have unnamed seedlings from wild Korean seeds that have given promise after being planted out for a few years although they are still less than two feet high in their wire cages. That is their only shelter other than a wind break of neighboring evergreen trees. I do not cover any plants in winter.

There is a *Camellia japonica* cv. from the National Arboretum, NA #35667, a cross of 'Leucantha' x 'Z', to be watched. On test in location since 1974, it produced double coral-

colored flowers in 1988 in considerable profusion, the flowers protected by the foliage. The last few mild winters could be responsible. When I say "mild winter" I mean very few readings below zero°F (minus 18°C).

Bill Ackerman's cv. 'Frost Queen' has produced one or two beautiful white flowers in between our May spring freezes. Two old japonica plants whose seeds were from Wisley, England in 1960 occasionally open their buds in early May in my Play-Pen (a ten foot fenced area). One is red and one is white.

More than a thousand seeds of *Camellia japonica* from the U.S., England, Japan and Korea have been carefully planted, recorded and nurtured. But in my garden the species japonica cannot yet be considered reliable.

Camellia saluenensis x *Camellia japonica*

Better luck has attended my efforts in two other areas. *C. saluenensis* x *C. japonica*, which produces the Williamsii hybrids, has yielded two or three new seedlings, survivors of many that were planted. Along with the occasional japonica seedling, they bloom at the same time as *Daphne retusa* and the large opening buds of *Rhododendron kaempferi*.

They grow close to neighbors in the shade which protects them from wind dessication and prolonged freezing. I have had a display of lovely rosy coral-color or blush-pink flowers during some raw and chilly weather in early May. The hybrids spread rather low on the ground and lose any high-reaching growth to the freezing winters.

Camellia oleifera

The best, and only truly reliable, species in my trials is *Camellia oleifera* from China. It takes a long season to ripen its buds and, hampered by our summer droughts, it does not bloom until late October or November. Then it is splendid with white single flowers 7 cm. across in great profusion. The buds keep opening until the hard freezes of December become too severe. Then the unopened buds hang on most of the winter. My oldest plant was given to me in a small pot in 1965. It is now about seven feet tall and beginning to develop the spectacular bright tan-orange bark the tree will have in old age.

In our well-drained soils the roots of camellias are hardier than the tops. Many old seedlings of japonica have been frozen to the ground in severe winters and come back again in a relatively mild period. Their foliage is wonderfully healthy and glossy. We are four miles from the ocean. I do not experience scale or blights and confine my attentions to pruning and feeding with occasional watering. I do not regret this experiment of thirty years and shall continue with it hoping for new successes in the future.



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CAMELLIA HARDINESS IN NEW ZEALAND

**Colonel T. Durrant,
Chairman,
Camellia Memorial Trust**

The geographical situation of New Zealand has a powerful effect on its climate and on its suitability as a place in which to grow camellias. The main islands extend for about 1,000 miles between 36 and 46 Degrees of South Latitude and lie in an approximate North-South direction. The Latitude is similar to that of the Mediterranean in the Northern Hemisphere and, since air pollution is not a general problem, light intensity is high. The climate is oceanic in character since, lying in isolation in the South Pacific, there are some 5,000 miles of open water on both the East and West sides of the country and, at the southern end, nothing but a few scattered islands between it and Antarctica.

Prevailing global weather patterns come from the West and, because of the mountain ranges which run down the centre of the country, rainfall on that side is much heavier than in areas which are in the rain shadow of the mountains. The far north of New Zealand is virtually frost free. There are many favoured localities around the coastline where frost rarely, if ever, occurs. In inland areas temperatures tend to be lower. The figures for Rotorua, where these notes are being written, are probably very similar to these in much of the country. It lies 40 miles inland and has an average annual rainfall of 59 inches (1517 mm). During the camellia season from June to October, average rainfall is 27 inches (685 mm), and the mean temperature is 81 Degrees Centigrade; while in the summer months, it is 1512, with a maximum of 298 Degrees. Occasional radiation night frosts occur and may be as severe as minus 5 Degrees Centigrade, though favourable local conditions may reduce this considerably. Humidity is a very important factor in camellia wellbeing and during the camellia season it averages 85%.

There is some silent but incontrovertible evidence of the suitability of the New Zealand climate for camellia cultivation, and that is the presence of many thousands of old specimens of *C. japonica* which, planted mostly in the period 1860-1890, are still bearing great crops of flowers in spite of many intervening years of total neglect.

They are spread from one end of the country to the other and, in many cases, are the sole survivors of early gardens which have long since disappeared under the changing patterns of settlement and land use. There are, of course, areas where the more recently discovered tropical and subtropical species would not survive but, in more favoured localities, most of those may be grown successfully if good local micro-climates are selected for them. Most of the soils in New Zealand are of volcanic origin; deep, slightly acid and free draining. Camellia roots, in spite of frequent claims to the contrary, penetrate deeply into these soils which gives them substantial protection against droughts when these occur. There is another important difference between camellia culture here and in the United States. In New Zealand container culture, once plants leave the nursery or garden centre, is virtually non-existent and they are grown in the open ground.

It can be seen from the foregoing that camellia hardiness, in terms of plant survival, is really not a New Zealand problem. Casualties may occur in young plants when these have not been given elementary care in planting and maintenance or, as sometimes happens, they have already been suffering from root diseases when they arrive from the garden centre. With proper care young plants establish very easily.

When New Zealanders talk about camellia hardiness, they are referring to the ability of FLOWERS to withstand weather damage. This can vary greatly between varieties, and experience shows that white and pale pink flowers are not so weather resistant as red and the darker shades of

that colour. We have also found that hybrids with some *C. pitardii* v. *pitardii* parentage produce flowers which are remarkably resistant to low temperatures. Good garden management involves providing as much wind protection as possible for all camellias and using any available shelter for the more delicate colours. When night radiation frosts occur, it is difficult to be precise about the exact degree to which flowers have been exposed since, under these conditions, there can be very wide variations at different levels above the ground and in different parts of the garden. Slopes, proximity to bodies of water and the general geographical features can all introduce variations. It is no use at all to assume that temperatures broadcast from the local weather office have, in fact, been experienced by any particular plant in the garden. A serious study would involve using a battery of maximum-minimum thermometers, hung among the camellia bushes. We have done this, and variations of as much as 4 Degrees Centigrade have been recorded in a very small area.

In our experience, light frosts do not affect many flowers; an occasional severe one will destroy a substantial number but within a few days a fresh crop will have appeared. In 20 years at Rotorua, we have two or three times experienced frost which caused some flower bud drop particularly on formal double types of *C. reticulata*; but since disbudding is not possible on very large plants, we probably get bigger and better blooms from the surviving buds which flower later in the season.

In this country there have been no formal studies or investigations into any of the problems associated with hardiness in camellias, but the Camellia Memorial Trust is funding university scholarships for the scientific study of the Genus and, at some future time, the subject may well come within the orbit of these activities. All New Zealand visitors to the United States are deeply impressed by the skill and determination with which adverse conditions are overcome by dedicated camellia lovers. In New Zealand we are fortunate that Nature, and a kindly climate, take care of most of these things for us.

Thoughts on Camellia Cold Hardiness

Luther W. Baxter, Jr.*
and
Sally B. Segars*

Weather patterns are always unpredictable at Clemson, SC, an area on the fringe of the camellia growing area. Severe cold weather occurred three consecutive years at Clemson; December 1983 (5°F), January 1985 (-5°F) and January 1986 (5°F). The most devastating cold weather occurred on January 21, 1985 (-5°F) when most camellia cultivars were severely injured.

The winter weather of 1966 (late January) was also cold, with a low of 0°F following a heavy snow. Cold temperatures persisted for several days, but above 0°F which occurred only one night. Low temperatures killed all floral buds and many vegetative buds were injured to the extent that leaves were severely distorted.

Our experience has been that ovaries of most camellia flowers are killed when temperatures drop to 5°F or lower. However, wood and leaves of two *C. japonica* cultivars, 'Paulette Goddard' and 'Governor Mouton,' sustained practically no injury during the January 1985 freeze (-5°F).

One interesting point is that stems at and distal to open flowers are killed by low temperatures when they occur around 12° to 18°F or lower. When two flowers open simultaneously at one location on the stem (opposite each other at a node) the stems are killed more easily by freezing temperatures than when there is only one flower at a node.

C. sasanqua plants were more severely injured as a group than were *C. japonica* plants. However, one unnamed *C. sasanqua* seedling, a very vigorous plant, sustained no injury. Also it rarely develops many galls caused by *Exobasidium camelliae*. Thus it may be valuable for at least two reasons.

Some other *C. japonica* cultivars sustained only moderate to little injury during the period when the low temperature was -5°F. Examples include 'Prince Eugene Napoleon,' 'R. L. Wheeler,' 'Blood of China,' 'Daikagura,' 'Kumasaka,' and 'White Empress.'

C. japonicas 'Lady Clare,' 'Tomorrow,' 'Cho-Cho-San,' 'Debutante,' 'Gloire de Nantes,' 'Flame' and 'Betty Sheffield' are examples of the many *C. japonica* cultivars that sustained severe injury at Clemson on January 21, 1985. A few plants were killed during this time but most of the plants put out new growth from the base of the plant adequately well to survive.

Two *C. hybrids*, 'Forty-niner' (*C. reticulata* x *C. japonica*) and 'Valley Knudsen' (*C. saluenensis* x *C. reticulata*) were killed, the only *C. reticulata* hybrids that were present to evaluate.

Plants of hybrids involving *C. saluenensis* x *C. japonica* are as hardy as the average *C. japonica* cultivars, such as 'White Empress.'

Much variation exists within *C. sasanqua* or *C. sasanqua* type cultivars. Several *C. sasanqua* seedlings were severely injured. Two plants of *C. sasanqua* 'Rosea' were severely injured and spores of the dieback and canker fungus, *Glomerella cingulata*, entered through the frost cracks and later killed these plants. This was also true of several *C. sasanqua* seedlings.

Approximately 1,000 seedlings are included in a study involving parentage of both *C. japonica* and *C. sasanqua*. Several seedlings of both species were cold hardy, showing little if any damage to cold temperature. These seedlings were field set in 1967 and most are growing in full sun.

Three large *C. sasanqua* plants, one each of 'Hinode-Gumo,' 'Papaver,' and 'Setsugekka' were killed to the ground. 'Papaver' died but the other two sprouted from the base at or below ground level and are recovering slowly. Four large plants of *C. sasanqua* 'Gulf Breeze' were killed to the ground; they, too, are recovering slowly.

It should be easy enough to select seedlings of both *C. japonica* and *C. sasanqua* resistant to both cold temperatures and sun tolerance. The location of Clemson is ideal for selecting seedlings moderately resistant to cold temperatures. Temperatures in North Carolina (Chapel Hill) and the Washington, D.C. area are colder and thus a wider range of plants having resistance to colder temperatures can be examined there.

The state of dormancy has an effect on established plants of *C. sasanqua* and probably *C. japonica*. For outside plants a balanced fertilizer (analysis 10-10-10) should be applied in mid-February to mid-March at the rate of 1000 pounds per acre.

No other fertilizer application is applied because applications made after spring usually encourage additional growth, mostly in July or August. Only one or two new shoots develop usually which may grow one to two feet in length; new growth may become covered with aphids. Usually these long shoots should be clipped unless they are to be used as scion-wood for grafting. One early fertilizer application (mid-February to mid-March) usually does not support growth after the first flush.

C. sasanqua plants can tolerate moisture stress after they are established. It is believed that the application of late irrigation and fertilization keep plants from developing proper winter dormancy needed to protect them from injury.

In one study, a group of 20 *C. sasanqua* plants were planted and

watered the first year only. Since 1974, they have been neither fertilized nor watered. Only one plant died. All surviving plants have flowered regularly and grown adequately. However, a limited fertilizer application in late February would have helped them. These plants suffered little injury during the three years, 1983 (December 24th), 1985 (January 21st) and 1986 (January 28th) when low temperatures were 5°F, -5°F, and 5°F, respectively.

The gist of these studies and observations is that neglected plants appear to survive better than those that are given too much care.

It should be axiomatic, though, that weed control is essential for moisture conservation and that camellia plants should not be planted too near large trees which absorb much of the soil's available moisture during periods of extended drought.

Pruning camellia plants has received some work on the influence of cold or freezing temperatures on appearance and survival. *C. japonica* plants cut back severely in September (5 plants) October (5), and November (5), all died; one of five plants cut back survived in both December and January. All plants (5 of 5) survived when cut back in February and March.

A large group of *C. japonica* and *C. sasanqua* plants (about 200) cut back in May and June, 1988 survived the winter without apparent injury.

The intensity of the winter, cold temperatures combined with the time that cold spells occurred, undoubtedly affect survival. This past winter the temperature low was about 20°F; thus the 1988-89 winter was mild and January temperatures were unusually warm. Most of these 200 plants were in the open (without shade).

Summary

Camellias thrive outdoors at Clemson, South Carolina except during times of extremely cold temperatures (0°F or lower). These temperatures are rare at Clemson, and thus camellias are grown outdoors successfully by many people around the area. Clemson represents one of the northern fringe-areas of the camellia-growing region of the South.

Years of observations have revealed that excessive fertilization and irrigation applied after spring growth may actually make plants more susceptible to cold injury.

Some camellia cultivars exposed to temperatures lower than 10°F but 0°F or above suffer some injury; usually at these temperatures ovaries of flowers are killed and some leaves of vegetative buds are injured.

*Technical Contribution No. 2974 of the South Carolina Agricultural Experiment Station, Clemson University.

Appointment of Novice and Accredited Judges

INTRODUCTION

It is the policy of the American Camellia Society to encourage *qualification* of interested persons as Accredited Judges to enable all shows to have well qualified judges readily available.

Applicants must:

- (a) Be a member in good standing of the ACS.
- (b) Know, and be familiar with the characteristics of at least 75 different varieties of camellias, as well as the correct nomenclature pertaining thereto, insofar as it is known.
- (c) Familiarize themselves with the rules and regulations of the Society governing judging, camellia shows procedures and awards, and agree to follow conscientiously and abide by such regulations.
- (d) Obligate themselves to continue their studies of the genus *Camellia* for the purpose of increasing their knowledge of the characteristic features, habits and nomenclature.
- (e) Accept *invitations* as feasible to shows where their services as a Judge are needed.
- (f) Have a copy of the Society's rules on judging readily available at all times when officiating as a Judge or in conference with camellia show officials.

CHAPTER 1

Section 1—NOVICE JUDGES:

- (a) Any member of The American Camellia Society who has worked as a clerk in at least one ACS Cooperative Show may be designated a Novice Judge by making a written request thereof with the *Executive Director of ACS*. Such designation shall be indicated by the letter "N" along-side the member's name in each Membership Roster issued during the ensuing five years unless accreditation is achieved earlier. Each Novice Judge's appointment shall be limited to this period.
- (b) ACS shall urge all Cooperative Show sponsors to use the services of a reasonable number of Novice Judges to assist them in qualifying as Accredited Judges.

Section 2—ACCREDITED JUDGES:

Any person who has been a member of ACS for at least two (2) years may qualify for appointment as an Accredited Judge by complying with one (1) of the following requirements: (a), (b), (c), (d):

- (a) 1. By having served as a Novice Judge in at least three (3) ACS Cooperative Shows, per year, over a period of not less than two (2) years (at least six (6) shows), since being appointed as a Novice and by having attended an ACS Approved Judging School.
2. By having passed the ACS Approved written tests or examinations and being recommended by the Judging School.
- (b) 1. By having served as a Novice Judge in at least two (2) ACS Cooperative Shows, per year, over a period of not less than three (3) years (at least 6 shows), since being appointed as a Novice and by having attended an ACS Approved Judging School.
2. By having passed the ACS Approved written tests or examinations and being recommended by the Judging School.
- (c) 1. By having served as a Novice Judge in at least six (6) shows over a period not less than two years or more than five (5) years since being appointed as a Novice and by having attended an ACS Approved Judging School.
2. By having passed the ACS Approved written tests or examinations and being recommended by the Judging School.
- (d) Some Novice Judges, who live in places remote from other camellia growing areas, may find it an extreme hardship to comply with the requirements listed under (a), (b), and (c) above. This is due to the long distances they would have to travel in order to go to other than their local show. These persons can apply to the Chairman of the Exhibitions and Awards Committee for a waiver of the requirements listed under Section 2(a), (b), and (c). The Exhibition and Awards Committee by a three-fourths (75%) affirmative vote may allow such Judges to be (Accredited) by complying with 1 and 2 as follows:
 1. By having served as a Novice Judge in at least one (1) ACS Cooperative Show, per year, over a period of not less than three (3) years, and not more than five (5) years, since being appointed as a Novice and by having attended an ACS Approved Judging School.
 2. By having passed the ACS Approved written tests or examinations and being recommended by the Judging School. Each applicant for Accreditation shall furnish the Executive Director of the ACS the names of the Accredited Judges with whom he or she has judged. Recommendations on the qualifications of the applicant will be requested by the Executive Director. Either the Executive Director or the Chairman of the Exhibition and Awards Committee may also request some other Accredited Judges or Officer of ACS to interview the applicant and report on the qualifications. Upon receipt of satisfactory evidence of the qualifications the Executive Director of ACS shall appoint the applicant an Accredited Judge.

Fall Care of Camellias

Dave Scheibert

Fall signals the advent of the camellia blooming season heralded by *C. sasanquas* and *C. japonicas* 'Are-jishi' and 'September Morn'. Disbudding may still be necessary for earlier missed buds or later forming buds. By avoiding nitrogen in the last summer fertilizer application, secondary vegetative growth is usually avoided. Some have said that flowers blooming on late vegetative growth are not as good as those on the primary growth. Watering adequately remains important to afford good flower bud development particularly with the drier and hot fall weather.

Use of gibberellic acid to promote early blooms can extend the blooming period from October into April with enjoyment of blooms before the colder winter months. Gibbing is normally done the first week in September to produce flowers before the Holidays. Treated buds are subject to freeze damage since they are actively growing with increased water content and blooms may occur in three to ten weeks depending on the cultivar.

Last year 21 fresh camellia blooms were delivered to the Southern Governors Conference, Sea Island, Ga. on September 23, 1988, by treating 100 outdoor and indoor buds on August 1 and 2, 1988, with a 1.8% gib solution. The blooms matured from the third week of August (*C. japonica* 'September Morn') through October (*C. japonica* 'Fashionata'). Forty percent of the blooms were not satisfactory due to

bull-nosing or not being well formed. So very early camellia blossoms can be obtained if one wishes to accept 40% that are imperfect. When a treated bloom is cut it is best to cut three or four leaf nodes down the stem since gib has a slight retrograde vegetative effect. If one or two buds are treated each week on a large plant up until late January, one may have a steady supply of blooms during the show season. Use of gibberellic acid to excess or on small plants may cause twig dieback or worse. The usual 1.5 to 2.0% gib solution can be diluted 10 times with distilled water to be used on miniature and small cultivars to break flower bud dormancy without as much danger of oversized flowers.

It is suggested that the last application of fertilizer in July or August should be low in nitrogen such as 3-9-9 to avoid late secondary vegetative growth. After moving container plants into a well protected area or greenhouse before frost, consider monthly applications of a half strength soluble fertilizer, fish emulsion (3 TBS), trace elements, ¼ tsp. Epsom salt (Mg. SO₄) and Benlate® (2 TBS) in 5 gallons of water, using one cup of solution per gallon of potting soil. One half TBS of dolomite lime per gallon of container mix is also helpful in the Fall as well as Spring. Testing pH can indicate the need for lime. In spite of some writings calcium and magnesium are necessary for camellia health as is a pH of 5.5 to 6.5. A higher pH favors better variegation of bloom.

Water needs must not be neglected during hot dry periods to promote good bud development particularly if fall gibbing is practiced. An

adequate mulch also assists and is protective during a cold and/or dry winter season. Mounding mulch up around the trunk could insure recovery of a plant exposed to a very severe Winter.

When needed the fall season is a good time for the second Summer oil spray not only for scale, aphids, or mites, but also for shiny leaves. The Davey Tree Expert Co.⁽¹⁾ has decreased its use of insecticides by 75-80% by using decreased amounts in combination. For example, insecticidal soap at ½ the usual rate and a synthetic pyrethroid at ¼ normal rate gave good control of most sucking insects and mites as well as Japanese beetles. Soap or light superior oil with small amounts of Sevin® or Orthene® controlled many pests as well as did only one-sixteenth of the normal rate of Dursban® with oil for mites. Always remove and burn dead plant parts due to dieback. The freshly cut stem should be flush and painted with a Benlate® and tree coat mixture.

Newly planted small camellias and grafts are more subject to freezing so planting in colder areas is best done in the Spring. Protected container plants may be moved to larger containers through Fall and Winter. Light pruning or shaping may be carried out at any time, but heavily pruned plants are more subject to cold damage and primary pruning should be done in early Spring before new growth begins.

Propagation activities in early Fall may consist of rooting cuttings with the help of bottom heat although preferably done in very early Spring or after new wood hardens in June and July. A rooting medium of half coarse sand and half peat moss by volume has proven better than sand alone plus the use of a rooting hormone.

Camellia seed pods ripen from August to October. The sooner these seeds are planted the greater the percentage of germination. If not planted promptly store temporarily in a refrigerator. Germinating mixes may consist of pure perlite, peat moss, fine pine bark, sphagnum moss, soil or mixtures thereof and there are renowned advocates of each. Unmilled pure sphagnum moss or fine pine bark may be best because of their antibacterial and antifungal

properties. There is suggestion that seed soaked for 24 hours with the growth regulators gibberellic acid 0.1% or triacontanol will slightly speed and increase percent of germination.⁽²⁾ Cracking the hard seed coat may also be beneficial. A one-half hour seed soak with Benlate® and Captan® solution may help protect against mold or damping off. Leaving the tap root intact causes no harm and will give later protection against drought.

Seedling growth may be speeded by constant or a long night period of exposure to incandescent light to prevent night dormancy. Increased temperature, fertilizer and carbon dioxide will also promote constant seedling growth and blooming in 18-24 months.

Every bit of care will result in better camellias and increase interest and wonder as seedlings and grafts grow and flower. Before the next issue of the Journal research and think about winter care.

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2. Personal observation.

Air Mail for Overseas Members

Some of our Overseas Members have asked about the feasibility of sending our ACS publications to them via Air Mail. It is feasible; the cost of air mailing the publications shown below is *in addition* to the cost of the membership dues.

COST OF AIR MAILING JOURNALS

The cost for mailing via Air Mail the four issues of *The Camellia Journal* is as follows:

Australia and New Zealand	US\$14.92
Japan and the Far East	US\$14.92
United Kingdom and West Europe	US\$11.76
Argentina and South America	US\$11.76

COST OF AIR MAILING YEARBOOK

The cost for mailing via Air Mail one issue of *The American Camellia Yearbook* is as follows:

Australia and New Zealand	US\$8.28
Japan and the Far East	US\$8.28
United Kingdom and West Europe	US\$6.14
Argentina and South America	US\$6.14

If an Overseas Member wishes all the publications to be sent via Air Mail, he need only add the two relevant figures above; \$23.20 for Australia, New Zealand, Japan, China, Korea; and \$17.90 for United Kingdom and Western Europe and Latin America. The additional cost for mailing via Air Mail must be sent prior to 1 January 1990.

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(The name in boldface type indicates the person in whose memory the donation has been made as of May 31, 1989)

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Expanding the Cultural Range of Camellias

William L. Ackerman*

Prior to the past decade of recurring severe winters, camellias were widely grown throughout the Atlantic coastal region from northern Florida to Maryland and Delaware and, under protected microclimatic conditions, as far north as coastal New England. This area was drastically reduced during the early 1980's, but during the past several years, appears to be expanding again. However, future winters may again be hazardous to camellia health and well being. It would be prudent to move with caution in these marginal areas. In contrast, southern Florida and the Caribbean are considered unsuitable for camellia culture because of excessive heat and light intensity, while soil conditions in many interior states are too alkaline for acid loving plants, such as camellias.

In some respects, camellia growers are themselves largely responsible for the present limitations in the range of out-of-door culture of camellias. Our over-dependence upon cultivars of a half-dozen or so species is a major reason why camellias are not more widely grown. Today, probably 98 percent of all camellias grown for their ornamental qualities are cultivars derived from *C. japonica*, *C. reticulata*, *C. rusticana*, *C. saluenensis*, *C. sasanqua*, *C. hiemalis*, and *C. vernalis*. Yet, these species represent a small fraction of the 98 species described by Sealy in his *Revision of the Genus Camellia*, or the 190 species described by Hung Ta and Bartholomew in their recent comprehensive publication, *Camellias*.

On the basis of the species diversification within the genus, mainland China, and most likely Yunnan Province, was the center of origin of camellias. During its evolution, the genus spread throughout much of south-eastern Asia with naturally occurring mutations and strains adapting to prevailing climatic conditions as it spread to new areas. Early man undoubtedly aided in the dissemination of plants and seeds to new areas, more because of the valuable oil from their seeds than their ornamental characteristics. None-the-less, adaptation and natural selection resulted in the establishment of camellias into new areas where plants became part of the endemic vegetation. Thus, today the geographical distribution of the genus encompasses China, Nepal, Burma, Vietnam, Taiwan, Japan and Korea. Climatic conditions within this vast region include tropical, subtropical, warm-temperature, and cold-temperature zones.

If natural selection and adaptation has allowed the genus to spread over such a wide climatic range, why should not our camellia cultivars be developed to reflect a similar cultural range? The answer is that we have been too complacent with our own limited breeding accomplishments and too indifferent to utilize species beyond the commonly accepted large-flowered cultivars. Most of the lesser-known species have small flowers and but one of few admirable characteristics from the viewpoint of most camellia growers. Other characteristics, such as adaptation to adverse climatic and soil conditions, are not obvious to the eye, but can only be ascertained by testing, evaluation, and selection prior to the breeding effort. Yet, in the develop-

ment of new camellia cultivars, which will have the greatest impact on future camellia culture? Shall we continue to make intra- and interspecific crosses within the cultivars of the already acceptable species which can only result in minutely different flower characteristics from those already abundant? Or should we break away from our obsession with dinner-plate sized flowers and start thinking about the camellia plant as a whole? It is a sad thing that so many camellia growers think only of the plant as a prop that supports a show quality bloom. These people call themselves "growers" but actually they are merely "miners" of silver and blue ribbons.

It is highly unlikely that the continued redundancy of most camellia breeding today will substantially change camellias in the next hundred years other than clutter our nomenclature books with more thousands of additional cultivars much like we already have. It certainly will do little to expand the world of camellias beyond its present geographic limitations.

On the other hand, an in-depth testing and evaluation of the many lesser-known species should reveal distinctively unique plant and flower characteristics that will make them of great value to future breeding programs.

Cold Tolerance

Prior to 1977, *C. oleifera* was considered of little ornamental value and merely a poor cousin of *C. sasanqua*. Now, twelve years later and following the field testing of thousands of interspecific hybrids involving *C. oleifera* crossed with *C. sasanqua*, *C. hiemalis*, *C. vernalis*, *C. japonica* and *C. x Williamsii*, we



Figure 1. 80-330 C X Williamsii 'November Pink' x *C. oleifera*. Flower typical of this cross.



Figure 2. 'Sunworshipper' A high heat & light intensity tolerant cultivar.

realize that not only are certain strains of *C. oleifera* more cold hardy than any camellia we have seen, this characteristic is readily transmitted to the progeny. As a result, six fall flowering cultivars: 'Snow Flurry,' 'Polar Ice,' 'Winter's Hope,' 'Winter's Charm,' 'Winter's Rose,' and 'Winter's Star' are presently being propagated by a number of nurserymen for future sales to the public. In addition, a similar number of spring flowering hybrids with show quality blooms are reaching the final stages prior to naming and release (Figure 1).

Heat Tolerance

Interest in extending the range of camellia culture into southern Florida, where *C. japonica* does not do well because of excessive heat and light intensity, was responsible for our initiating a program in 1978 to test hybrids involving parental species from sub-tropical Asia. Hybrid plants of *C. hongkongensis*, *C. miyagii*, and *C. kissi* were

distributed to six co-operators in southern Florida, two in southern California, and one in Texas. From these tests, two hybrids, in particular, did exceptionally well under these southern conditions even in full sun. As a result, two hybrids were named and released to the nursery trade. These were: 'Sunworshipper' (Figure 2) a *C. hongkongensis* hybrid and 'Two Marthas' a *C. kissi* hybrid.

Alkaline Tolerance

Largely unexplored is the problem of developing greater alkaline tolerance among camellias. There are large areas of the United States, particularly in the southwest, where alkaline soils are the limiting factor in the growing of camellias. It is entirely conceivable that among the lesser-known species, degrees of alkaline tolerance exist. It is only a matter of someone taking the initiative to collect, propagate and test a large cross section of camellia species for potential alkaline tolerance within the genus.

Presented here are but a few examples of some of the possibilities for extending the climatic range of camellias. These opportunities have been with us for many years, yet little has been done about it. Instead, the minor species have remained largely collectors' items, grown by a few camellia fanciers more as curiosities than for any gainful purpose. The re-establishment of plant exchange with mainland China has the potential for vastly increasing the genetic foundation of future breeding programs. It is therefore imperative to the future of international camellia culture that we not mis-use this opportunity. We need to change from the short term, quick results, dinner-plate concept so prevalent in our present camellia breeding philosophy. Greater depth and long range objectives involving a wide range of camellia species is needed if we are to substantially advance the camellia culture of the future.

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The Growing of Camellias in a Summer Rainfall Area in Southern Africa

Jan van Bergen

Growing camellias in an area where very little or no rainfall occurs during their flowering period presents certain problems and limits the growing of some varieties if high quality flowers are required.

At our nursery we keep daily records of rainfall, temperature and humidity. These records help us in the planning of growing our camellias.

General growing conditions in our Nursery: We get excellent results in growing our plants under shade netting of 40%.

The soil mix consists of ¼ bark, ¼ peat and ½ sandy loamy soil. The above mixture gives us a well drained soil. A small quantity of trace elements is added to the mix.

We feed our plants with a balanced fertilizer and our plants are watered by overhead "Rainbird" type of sprinklers which does increase the humidity of the surrounding area.

Rainfall: During the flowering period of the camellia, which spreads from February till September, we have in our area the following average rainfall:

Feb.	March	April	May	
71 mm	139	54	0	
June	July	Aug.	Sept.	Oct.
9	0	7	42	113

Humidity: Humidity during the flowering period of the camellias:

On hot/warm days in February it can be as low as 25%; in March and April it is slightly higher. In May, June, July and August the humidity can go as low as 15%.

Temperature: During the period from February till September they are as follows (C.):

Feb.	March	April	May
13-24	11-32	8-30	4-27
June	July	Aug.	Sept.
01-23	02-23	0-24	3-29

If one looks at the above figures one notices that we have no rain, a low humidity, cold nights and warm days during the peak flowering period of our *Camellia japonica* varieties.

The *Camellia sasanqua* is not so much affected by those climatic conditions as they flower mainly during February, March and April.

We have ±75 varieties of camellias in our collection which include *Camellia japonica*, *Camellia reticulata*, *Camellia sasanqua*, and hybrid camellias. We do not keep formal double camellias because in our very dry climate, the formal double varieties do not open properly and we have a lot of bud drop of those varieties. They "burn" easily when exposed to direct sun. In view of this we promote mainly the single, semi-double and loose double type of camellias.

During the summer months the day temperatures can be as high as 37°C with no ill effect on the camellias. It is interesting to see that the second growing period which

occurs from January onwards produces much better growth on the plants due to higher humidity during that period. If we have a very mild autumn the growth of the camellias can continue into early winter and the "burning" of young growth by early frost is possible.

We started our camellia collection some 15 years ago and under normal garden conditions our original plants like *Camellia hybrid* 'Anticipation' and *C. reticulata* 'Francie L.' are now ±4 meters high. *C. hybrid* 'Elegant Beauty' is very vigorous and is ±5 meters high. The *Camellia japonica* varieties are ±3 meters high.

We feed our plants once a year. We never clean away the old leaves around the bushes as we feel that they create a much needed mulch around the plants.

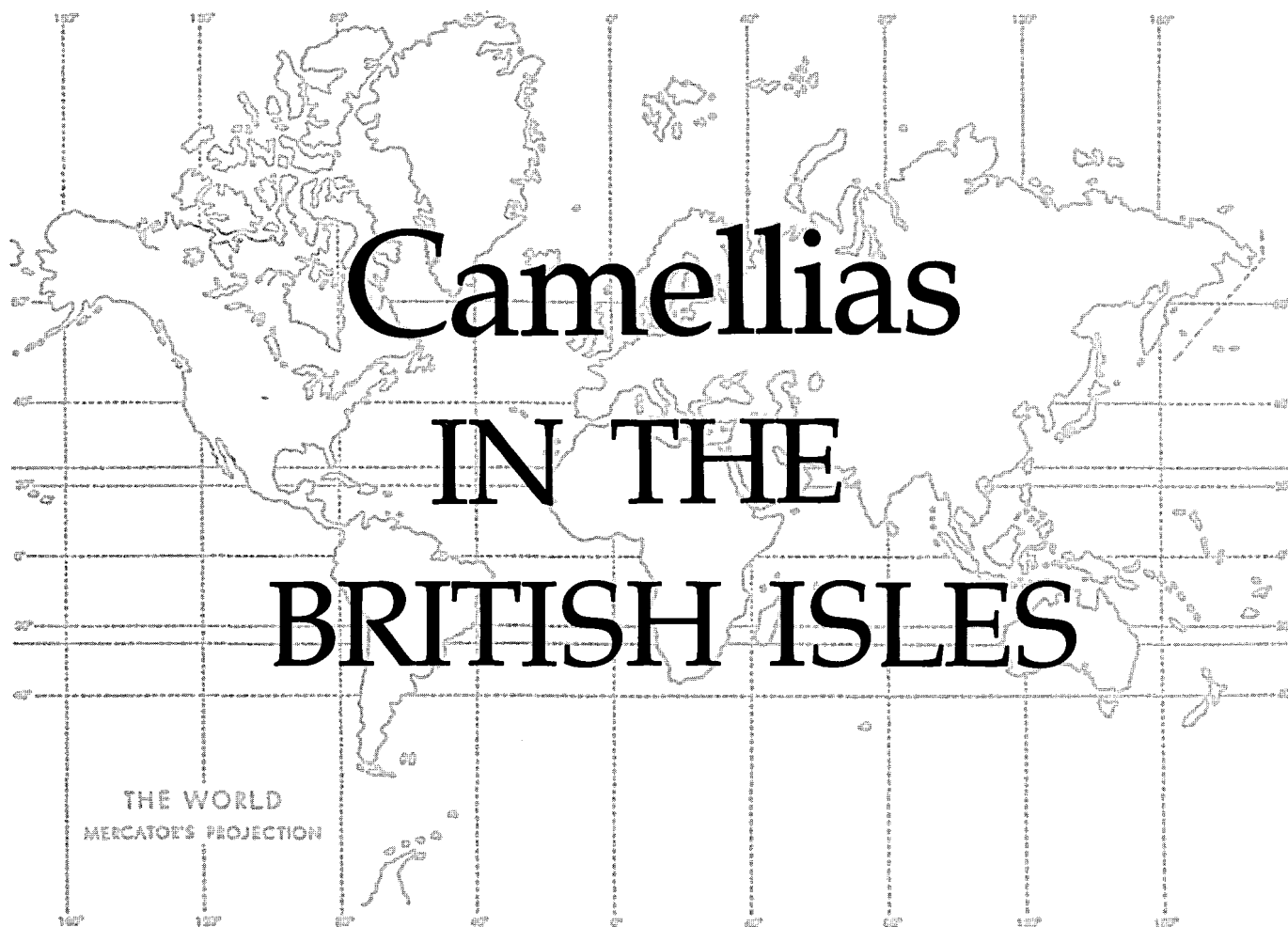
We have no diseases in our plants. Occasional aphids can be easily controlled.

Over the years we observed our camellias and for our climate we freely recommend *C. reticulata*, *C. sasanqua* and the hybrid camellias for sunny positions.

For the *C. japonica* varieties we recommend a semi shaded position; however, for the white flowering varieties like 'Snowman', we recommend full shade.

The flowering times of our camellias are divided into early (E), mid (M) and late (L) season.

E is from Feb. - May
M is from May - July
L is from July - Sept.



John Tooby

The weather in the British Isles is mostly windy and unsettled, as a series of Atlantic depressions moves rapidly east. These depressions usually give much more rain and wind to the north and west; they are occasionally interrupted by anticyclones; those centred on southern Europe bring light warm breezes from the south, those centred on northern Europe bring cold east winds which can originate in Siberia, while those centred on Greenland pour in cold air from the Arctic. The south and east of these islands can be dominated by anticyclones while the north and west remain under the influence of Atlantic weather. Thus, in January and February, 1989, a camellia grower on the west coast of Scotland recorded 48 ins. (1222 mm.) of rain, over 10 times the 4½ ins. (113 mm.) that I did here near Worcester in the English midlands. In general the south gets the warmest summers

and the east the coldest winters.

Worcester lies just north of the 52nd degree of latitude, about the same as The Hague in The Netherlands, Saskatoon in Canada, northern Sakhalin in the U. S. S. R. or the Falkland Islands in the south Atlantic.

Our winters at Worcester are not usually very cold; the lowest temperature I have recorded is -4 C (20 F) on a sheltered north wall, indicating about 2 C (4 F) cooler in the garden. This cut some young plants in my new garden back to the ground and killed a few; these were mostly the smaller plants. In neighbouring gardens older plants were severely cut back. It is well known that damage caused by low temperatures can be increased by two factors, a spell of mild weather beforehand and a strong wind at the same time. The prime requirement for growing camellias in most parts of the British Isles is therefore shelter from wind.

Wind and rain in spring, when the bushes are flowering, seem to affect

the flowers very much more at low temperatures. Late-flowering cultivars have an advantage here, and reds seem to stand up better than paler colours and *C. x williamsii* and similar hybrids weather better than forms of *C. japonica*. A late spring frost can cut back the tender young unfolding shoots, sometimes killing young plants, while flowers in the bud can also be affected.

As one moves north and west into Scotland and Ireland, summer temperatures tend to be lower and flower-bud formation is affected, particularly with cultivars of *C. japonica*; around Dublin, for example, 'Adolphe Audusson' will often produce thin formal double flowers, and 'Betty Sheffield' does the same in the open in the English midlands, while 'Guest of Honor' never set any buds for me at all outside. In Scotland and Northern Ireland only hybrids are worth growing; and when you get to the north coast of Scotland even hybrids have to be grown under glass to flower well.

The R. H. S. set up a trial of

C. x williamsii at Wisley many years ago; and the International Camellia Society has since opened trials at Willoughbridge (near Stoke-on-Trent), Harrogate in Yorkshire, Edinburgh and Belfast.

To come down to specifics, many gardens in southern Ireland, the Channel Islands and west Cornwall can grow camellias with very little need to worry about the weather, and the rest of the south of England is nearly as favourable. As you move north (away from the coast), much more attention has to be paid to microclimate, and in my part of the midlands only a restricted range of cultivars of *C. japonica* are satisfactory. Fortunately these are mostly in red shades, as we can turn to the hybrids for our paler colours. Among the best are 'Adolphe Audusson,' 'Alexander Hunter,' 'C. M. Hovey,' 'Clarice Carleton,' 'Emperor of Russia,' 'Gloire de Nantes,' 'Guilio Nuccio,' 'Julia Drayton' ('Mathotiana' in the U. S. A.), 'Lady Vansittart Pink,' 'Mathotiana Supreme' and 'Mercury,' while in the paler colours 'Bernice Boddy' and 'Margaret Ratcliffe' stand out. Incidentally, after a late spring frost in 1979, 'Margaret Ratcliffe' produced normal flowers and even set seed when the flowers of all other sorts were damaged by the frost. Having said that, it must be admitted that cultivars of *C. japonica* are as a group less satisfactory in the midlands than *C. x williamsii* or similar hybrids.

The *C. hybrids* started with the original batch from J. C. Williams at Caerhays, and his 'J. C. Williams,' 'Mary Christian' and 'St. Ewe' remain among the most generally satisfactory here together with 'Donation' and 'Inspiration' (a *C. saluenensis* x *reticulata* hybrid but as hardy as any and a splendid garden plant) which appeared soon after. 'Leonard Messel' is another *C. reticulata* hybrid, similar to 'Otto Hopfer' but hardier and with better coloured flowers; the flowers are rather large and need shelter from wind. Because they are so free-flowering, all these are slow growers when young and in our part of the world are best grown on until they reach 2 ft. (60 cm.) before being planted out.

Other *C. hybrids* have followed from various sources, and these have mostly proved somewhat less hardy

with us. However, 'Brigadoon' seems about as hardy as 'Donation' with a better habit and firmer flowers but has not become popular here. Of those produced by Vernon James, 'Dainty Dale' is satisfactory, being vigorous and free-flowering, but its sister seedling, 'Dorothy James' is slow growing and tender. Nuccio's 'Freedom Bell' succeeds in Scotland although it is very slow-growing. The finest hybrids yet produced are probably those raised by Les Jury in New Zealand, but they vary in hardiness. 'Anticipation' and 'Elegant Beauty' are good plants but scarcely as hardy as the originals from J. C. Williams, while 'Debbie,' which has wonderfully wind-resistant flowers, is slightly more tender and 'Elsie Jury' is definitely tender here. His brother Felix's 'Water Lily' is a nice formal double but the colour is rather like that of 'Donation' and it has not made much impact; the petals of his 'Dreamboat' do not incurve (presumably another climatic effect) but his 'Debbie's Carnation' and 'Debbie Felix' deserve a trial to see whether they are hardier or set buds more freely than 'Debbie.'

The *C. hybrids* from Professor Waterhouse include some good plants; 'E. G. Waterhouse' is good but on the tender side, while 'Bowen Bryant' is tougher but with less interesting flowers. There are good reports about 'Dr. Louis Polizzi' from Tammia and also 'Free Style' another *C. reticulata* cross this time from David Feathers; his 'Bridal Gown' has proved to be the best white in the I. C. S. trial and can be recommended for Scotland. Over the last 20 years or so, Gillian Carlyon has sent out a number of hybrids, but these again have mostly proved to be somewhat less hardy than the old ones from Caerhays, even though she often used 'J. C. Williams' as a parent. Her 'E. T. R. Carlyon' is a very nice late-flowering white which misses early frosts. The new and very free-flowering hybrids of *C. pitardii* from Bettie Durrant in New Zealand have not yet been tried out in the midlands and north. More recent single pinks from Caerhays which seem quite hardy are 'Mary Larcom' and 'Muskoka' and the former is reckoned to be better than 'Mary Christian' or 'St. Ewe.' J. C. Williams was also a pioneer in using

C. cuspidata as a parent and his 'Cornish Snow' is a good garden plant, though apparently not quite as hardy as some of his other hybrids. Its twiggy growth means that it takes a few years to produce stems of sufficient thickness to resist the frost. Other *C. hybrids* on the borderline of hardiness with us, and for the same reason, are Gillian Carlyon's 'Cornish Spring' and Domoto's 'Spring Festival;' the latter is perhaps the best garden plant among this group.

I was intrigued to read a few years ago that some of Polly Hill's hardest camellias on Martha's Vineyard were seedlings of *C. saluenensis* from Wisley, though others from the same batch had been killed by frost. While looking at the Wisley trial in April, 1987, I noticed that a dark rose-pink form of *C. saluenensis* had stood up to the preceding winter better than some *C. x williamsii* and could not help wondering whether this bush had been the source of Mrs. Hill's seedlings. It is evident that there is considerable variability in the hardiness of different forms of *C. saluenensis* as with *C. japonica* and indeed with seedlings from the same cross. It is natural for raisers of camellias to operate in warm climates and most *C. x williamsii* and similar hybrids seem to have appeared without any particular attention being given to the hardiness or otherwise of the parents, and it is only a happy accident that some of them are quite hardy. Should not we northern gardeners be using the hardest possible parents to produce seedlings which combine good garden qualities with ever greater hardiness? After all, this is how the Chinese have pushed the cultivation of tea steadily northwards over the centuries.

Fiftieth Anniversaries

The Southern California Camellia Society is 50 years old in 1989. The Mobile Camellia club will be 50 years old in 1990 and will host the ACS Spring Convention January 18-20, 1990 in Mobile, AL. Details will be available in the November *Camellia Journal*.

MOBILE –

Your Host City

January 17-20, 1990

The art of growing camellias in Mobile reaches a milestone in the year 1990 when the Mobile Camellia Society celebrates its 50th anniversary by hosting the American Camellia Society National Meeting, January 17 through 20, at the Radisson Admiral Semmes Hotel, Mobile, Alabama. What started out as a few businessmen gathering together to exchange and share information about camellias developed into an organization in 1940 that has promoted and disseminated information about them for 50 years.

Camellias coming into the Mobile area can be documented back to 1838 when 30 camellia plants were delivered to Abraham Bartlett Homer of Mobile aboard the freighter Minerva Marshall. The camellias were listed at a wholesale price of seven pounds and 10 shillings and sold for \$37.50 in the U.S. currency of the day. This explains why many old and large plants can be found in the Mobile area particularly around some of the homes that are known to have existed in Mobile in the 1840s and 1850s.

The participants of the American Camellia Society meeting will visit a number of these historical homes that have been restored to the period of their greatest influence in Mobile's society. Many homes were built by the wealthy planters and merchants

of the area. The planters' homes were often only used during the winter months when their families would come to Mobile for Mardi Gras. Many of these same planters and merchants were descendants of earlier settlers in the area, and knew through oral and written tradition that gardens were required of French settlers before they could obtain land grants from the King.

This gardening tradition brought about the door yard and patio gardens of the day that even now remain popular, giving Mobile its rich heritage of gardening. Many descendants of the plants of the earlier settlers can still be found growing in the area.

Convention attendees will be treated to educational programs that will stress the historical aspects of the nursery industry, and historic homes and gardens. Tours will be offered which will feature these gardens, homes, and nurseries with one full afternoon devoted to Bellingrath Garden and Home, where the largest display of the actual works of Edward Marshall Boehm is on display for the public.

Participants will also take part in the 50th anniversary celebration of the founding of the Mobile Camellia Society and the presentation of its 50th Annual Camellia Show. With its theme carrying out its golden

anniversary, this show will be staged in the newly renovated Mall at Springdale Plaza.

The headquarters hotel will be the recently restored and renovated luxury Admiral Semmes Hotel in downtown Mobile. This hotel has been the site of many past activities and meetings of the American Camellia Society. Rates are excellent for this meeting at \$53 (single or double). The hotel has one of the finer dining rooms in Mobile, and is within walking distance of many of the historical sites and some of the finest in seafood specialty restaurants, as well.

The weekend scheduled for the meeting is also the time for the Senior Bowl, which will be held at Ladd Stadium in Mobile on Saturday afternoon, January 20. For those camellia enthusiasts who are also football addicts, early reservations will ensure your place in Mobile for the Golden Anniversary Celebration of the Mobile Camellia Club and the Senior Bowl.

Editor's Note: The November Journal will feature the schedule for the Annual Meeting in Mobile. Since this is a football weekend in Mobile, you are encouraged to make your reservations early at the Admiral Semmes Hotel.

• SHOW REPORTS • SHOW REPORTS • SHOW REPORTS • SHOW

(Reports of ACS Cooperative Shows. In each report, the words *C. reticulata* include those hybrids with *C. reticulata* parentage. Also in each case, the *C. hybrid* means all those hybrids with other than *reticulata* parentage. *C. sasanqua* includes related species.)

ALABAMA

BIRMINGHAM, February 11-12, 1989.
(39th Annual)

Sponsor: Birmingham Camellia Society
No. Blooms Displayed: 1239.

ACS OUTSTANDING BLOOM CERTIFICATES:

C. japonica:

Very Large: 'Charlie Bettles', C. C. Buck
Large-Very Large: 'Guilio Nuccio Var.', Louise Hairston
Large: 'Lady Laura', Charles Bush
Medium-Large: 'Lady Kay', G. W. Crawford
Medium: 'June Stewart Supreme', Ralph Davidson
Small-Medium: 'Demi-Tasse', Bartle & Carter
Small: 'Little Babe', Ashley McComb

C. reticulata:

Best Bloom: 'Dr. Clifford Parks', Louise Hairston

C. hybrid:

Best Bloom: 'Charlean Var.', Carl Franklin
Best White:
Medium Large-Very Large: 'Snowman', Mr. & Mrs. Herb Brown
Miniature-Medium: 'Elizabeth Cooper', Mr. & Mrs. George Griffin

ACS GOLD CERTIFICATES:

Mr. & Mrs. George Griffin

ACS SILVER CERTIFICATES:

Louise Poe Hairston

ACS OUTSTANDING ARRANGEMENT CERTIFICATES:

Tri-Color: Mrs. W. I. Irwin
Creativity: Mrs. Charles L. Jones

NUMBER OF ACS MEMBERSHIPS SOLD:
Two.

TUSCALOOSA, January 28-29, 1989 (27th Annual)

Sponsor: West Alabama Camellia Club
No. Blooms Displayed: 800. Attendance: 600.

ACS OUTSTANDING BLOOM CERTIFICATES:

Most Outstanding Bloom:

'Swan Lake', William Brewer

C. japonica:

Very Large: 'Swan Lake', William Brewer
Runner-up: 'Tomorrow Park Hill', Bagby Hall
Medium: 'Ville de Nantes', Mr. & Mrs. George Griffin
Small: 'Little Babe Var.', G. W. Crawford
Miniature: 'Tammia', Dee Davis

C. reticulata:

Best Bloom: 'Royalty', Bagby Hall

C. hybrid:

Best Bloom: 'Julie', Dee Davis

Best White:

'Ivory Tower', James Smelley

ACS GOLD CERTIFICATE:

Mr. & Mrs. George Griffin

ACS SILVER CERTIFICATE:

Ralph Davidson

ACS OUTSTANDING ARRANGMENT CERTIFICATES:

Tri-Color: Fran Geddes
Creativity: Fran Geddes

NUMBER OF ACS MEMBERSHIPS SOLD:
None.

CALIFORNIA

ATWATER, March 25, 1989. (12th Annual)

Sponsor: Atwater Garden Club and Camellia Society
No. Blooms Displayed: 2560. Attendance: 350.

ACS OUTSTANDING BLOOM CERTIFICATES:

Most Outstanding Bloom:

'Francie L. Var.', Donald Lesmeister

C. japonica:

Very Large: 'Mrs. D. W. Davis', Mr. & Mrs. Larry Pitts
Runner-up: 'Fashionata', Mr. & Mrs. Donald Lesmeister
Large: 'Nuccio's Jewel', Mrs. William Bruner
Runner-up: 'Helen Bower', Mr. & Mrs. Larry Pitts
Medium: 'Feathery Touch', Donald Lesmeister
Runner-up: 'Margaret Davis', Virginia Rankin
Small: 'Ellen Daniels', Mr. & Mrs. Larry Pitts
Runner-up: 'Little Babe', Mr. & Mrs. Donald Lesmeister
Miniature: 'Little Bit', Harlan E. Smith

C. reticulata:

Best Bloom: 'Francie L. Var.', Donald Lesmeister
Runner-up: 'Howard Asper', Art Gonos Family

C. hybrid:

Best Bloom: 'Coral Delight', Art Gonos Family
Runner-up: 'Anticipation', Art Gonos Family

Best White:

'Snowman', Art Gonos Family

Best Novice:

'Hermie', Christine Schmidt

ACS GOLD CERTIFICATE:

Robert Ehrhart

ACS SILVER CERTIFICATE:

Mr. & Mrs. Don Bergamini

ACS OUTSTANDING ARRANGEMENT CERTIFICATES:

Tri-Color: Ruby Eason
Creativity: Edith Kelm

NUMBER OF ACS MEMBERSHIPS SOLD:

None.

FRESNO, March 11-12, 1989 (41st Annual)

Sponsor: Central California Camellia Society
No. Blooms Displayed: 1950. Attendance: 10,000.

ACS OUTSTANDING BLOOM CERTIFICATES:

Most Outstanding Bloom:

'Moonlight Bay', Mr. & Mrs. Elmer Achterberg

C. japonica:

Large-Very Large: 'Moonlight Bay', Mr. & Mrs. Elmer Achterberg
Runner-up: 'Royal Velvet', Gary Schanz
Medium: 'Grand Marshall', Art Gonos Family
Runner-up: 'Mrs. George Bell', Lee Chow
Small: 'Coral Delight Var.', Art Gonos Family
Runner-up: 'Black Tie', Mr. & Mrs. Jack Woo
Miniature: 'Tammia', Art Gonos Family
Runner-up: 'Kewpie Doll', Al Taylor

C. reticulata:

Best Bloom: 'Nuccio's Ruby Var.', Art Gonos Family
Runner-up: 'Al Gunn', Mr. & Mrs. Elmer Achterberg

C. hybrid:

Best Bloom: 'Coral Delight Var.', Art Gonos Family
Runner-up: 'Pink Dahlia', Mr. & Mrs. Elmer Achterberg

C. sasanqua:

Best Bloom: 'Star Above Star', Art Gonos Family

Best White:

'Snowman', Art Gonos Family

Best Yellow:

'Dahlohnega', Mr. & Mrs. Jack Woo

Best Fragrant:

'Scentuous', Mr. & Mrs. Wilbur Ray

Best Spray or Stem:

C. hybrid 'Tulip Time', Mr. & Mrs. Ben Mackall

NUMBER OF ACS MEMBERSHIPS SOLD:

None.

SACRAMENTO, March 5-6, 1989 (65th Annual)

Sponsor: Camellia Society of Sacramento & Sacramento Camellia Festival Assn.

No. Blooms Displayed: 5300.

Attendance: 10,000+

ACS OUTSTANDING BLOOM CERTIFICATES:

Most Outstanding Bloom:

'Emma Gaeta', Mr. & Mrs. James Randall

C. japonica:

Very Large: 'Royal Velvet', Mr. & Mrs. Donald Lesmeister
Runner-up: 'White Nun', Mr. & Mrs. Donald Lesmeister
Large: 'Moonlight Bay', Mr. & Mrs. Donald Lesmeister
Runner-up: 'Tomorrow's Dawn', Mr. & Mrs. Donald Lesmeister
Medium: 'Can Can', Mr. & Mrs. James Randall
Runner-up: 'Alta Gavin', Mr. & Mrs. E. F. Achterberg
Small: 'Buttons 'n Bows' (hybrid), Steve Campbell
Runner-up: 'Snowie', Mr. & Mrs. Donald Lesmeister
Miniature: 'Little Masterpiece', Mr. & Mrs. E. F. Achterberg
Runner-up: 'Fircone Var.', Mary Jo Pinheiro

C. reticulata:

Very Large: 'Emma Gaeta', Mr. & Mrs. James Randall
Runner-up: 'Pleasant Memories', Mr. & Mrs. Don Lesmeister
Medium-Large: 'Lauretta Feathers', Mr. & Mrs. Donald Lesmeister
Runner-up: 'Superior Crimson', Mr. & Mrs. K. C. Hallstone

C. hybrid:

Best Bloom: 'Julie Var.', Mr. & Mrs. Don Bergamini
Runner-up: 'Waltz Time', Mr. & Mrs. Don Lesmeister

Best White:

'White Nun', Mr. & Mrs. Larry Pitts

Best Novice:

'Pink Perfection', Connie Von Behren

ACS GOLD CERTIFICATE:

Mr. & Mrs. Don Bergamini

ACS SILVER CERTIFICATE:

Robert E. Ehrhart

ACS OUTSTANDING ARRANGEMENT CERTIFICATE:

Tri-Color: Jackie Nunan
Creativity: Alicia Simsiman

Best Yellow:

'Dahlohnega', Mr. & Mrs. Don Bergamini

Best Spray or Stem:

C. japonica 'Finlandia Blush', Mrs. Robert Gerdel

NUMBER OF ACS MEMBERSHIPS SOLD:

None.

SAN JOSE, February 25-26, 1989

Sponsor: Camellia Society of Santa Clara County
No. of Blooms Displayed: 2167.

Attendance: 1500.

ACS OUTSTANDING BLOOM CERTIFICATES:

C. japonica:

Large-Very Large: 'Miss Charleston Var.', Mr. & Mrs. Larry Pitts
Runner-up: 'Tomorrow's Dawn', Mr. & Mrs. Jack Woo
Medium: 'Desire Var.', Darren & Harlan Smith
Runner-up: 'Betty's Beauty', Mrs. Edith Mazzei
Small: 'Lemon Drop' (sic), Mr. & Mrs. James Toland
Runner-up: 'Little Babe Var.', Mr. & Mrs. Donald Lesmeister
Miniature: 'Lemon Drop', Mr. & Mrs. James Randall
Runner-up: 'Little Masterpiece', Mr. & Mrs. E. F. Achterberg

C. reticulata:

Best Bloom: 'Lillette Witman', Mr. & Mrs. Larry Pitts
Runner-up: 'Dr. Clifford Parks', Mr. & Mrs. Larry Pitts

C. hybrid:

Best Bloom: 'Julie Var.', Mr. & Mrs. Donald Bergamini
Runner-up: 'Pink Dahlia', Mr. & Mrs. Donald Lesmeister

ACS GOLD CERTIFICATE:

Mr. & Mrs. Donald Bergamini

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ACS SILVER CERTIFICATE:

Robert Ehrhart

Best Seedling:

C. japonica red striped, Mr. & Mrs. James Toland

C. reticulata #205, Jack Mandarich

Best Fragrant:

J S #1, Mr. & Mrs. K. C. Hallstone

NUMBER OF ACS MEMBERSHIPS SOLD:

None.

WALNUT CREEK, March 11-12, 1989

Sponsor: Northern California Camellia Society

ACS OUTSTANDING BLOOM CERTIFICATES:

Most Outstanding Bloom:

'Elizabeth Weaver', Mr. & Mrs. Larry Pitts

C. japonica:

Large: 'Elizabeth Weaver', Mr. & Mrs. Larry Pitts

Runner-up: 'Elegans Champagne', Mr. & Mrs. Larry Pitts

Medium: 'Midnight Magic', Mr. & Mrs. Larry Pitts

Runner-up: 'Magnoliaeflora', Mr. & Mrs. Donald Lesmeister

Small: 'Kuro-Tsubaki', Mr. & Mrs. Larry Pitts

Miniature: 'Man Size', Mr. & Mrs. James Toland

C. reticulata:

Best Bloom: 'Dr. Clifford Parks', Mr. & Mrs. Larry Pitts

Runner-up: 'Pleasant Memories', Mr. & Mrs. Donald Lesmeister

C. hybrid:

Best Bloom: 'Mona Jury', Mr. & Mrs. Donald Lesmeister

NUMBER OF ACS MEMBERSHIPS SOLD:

None.

DISTRICT OF COLUMBIA

WASHINGTON, April 8-9, 1989 (35th Annual)

Sponsor: Camellia Society of the Potomac Valley
No. Blooms Displayed: 641. Attendance: 5000.

ACS OUTSTANDING BLOOM CERTIFICATES:

C. japonica

In Open: 'Magnoliaeflora', Mr. & Mrs. Jac H. Bushong

Runner-up: 'Kumasaka', Mr. & Mrs. Phillip Jones

Protected: 'Sawada's Dream', Mr. & Mrs. Louis R. Daudt

Runner-up: 'Don-Mac', Mr. & Mrs. William L. Miller

C. reticulata:

Best Bloom: 'Dr. Clifford Parks', Mrs. Douglas Deane Hall

Best White:

'White Queen', Mr. & Mrs. Arthur Maryott

NUMBER OF ACS MEMBERSHIPS SOLD:

None.

FLORIDA

JACKSONVILLE, December 3-4, 1988

Sponsor: Camellia Society of North Florida
No. Blooms Displayed: 881.

ACS OUTSTANDING BLOOM CERTIFICATES:

C. japonica (In Open)

Large-V.Large, Chem.Tr.: 'Elegans Splendor', Parker E. Connor, Jr.

Small-Medium, Chem.Tr.: 'Purple Swirl', Mr. & Mrs. Bob Gramling

Large-V.Large, Not Chem.Tr.: 'Margaret Davis', Parker E. Connor, Jr.

Small-Medium, Not Chem.Tr.: 'Captain Martin's Favorite', Elizabeth Brown

C. japonica (Protected):

Large-Very Large: 'Show Time', Jim Pinkerton

Small-Medium: 'Fire Falls Var', Jim Pinkerton

C. reticulata:

In Open: 'Francie L', Mr. & Mrs. W. H. Rish

Protected: 'Francie L', Mr. & Mrs. W. C. Robertson

C. hybrid:

In Open: 'Buttons 'n Bows', Parker E. Connor, Jr.

Protected: 'Debbie', Mr. & Mrs. W. C. Robertson

C. sasanqua:

Best Bloom: 'Star Above Star', Mr. & Mrs. Tom Adams

Best White:

'Snowman', Mr. & Mrs. Jack Teague

Best Novice:

'Marie Bracey', Rico Rinchiuso

ACS GOLD CERTIFICATES:

In Open: Parker E. Connor, Jr.

Protected: Mr. & Mrs. Jack Teague

ACS SILVER CERTIFICATES:

In Open: Mr. & Mrs. Bob Gramling

Protected: Annabelle Fetterman

Best Miniature:

'Fircone Var', Mr. & Mrs. Tom Adams

Best Mutant:

'Kay Berridge Pink', Mr. & Mrs. Bob Gramling

Best Seedling:

Formal Double Japonica, Elizabeth Brown

NUMBER OF ACS MEMBERSHIPS SOLD:

Two.

NEW SMYRNA BEACH, January 21-22, 1989 (2nd Annual)

Sponsor: Southeast Volusia Camellia Society
No. Blooms Displayed: 476. Attendance: 800.

ACS OUTSTANDING BLOOM CERTIFICATES:

Most Outstanding Bloom:

'Veiled Beauty', O. L. Jacobson

C. japonica:

In Open, Chem.Tr.: 'Ruby Matthews', O. L. Jacobson

In Open, Not Chem.Tr.: 'Snowman', O. L. Jacobson

Protected, Chem.Tr.: 'Show Time', Frank Jamison

Protected, Not Chem.Tr.: 'Grace Albritton', Dr. C. David Scheibert

Miniature: 'Tammia', Dr. C. David Scheibert

C. reticulata:

In Open: 'Francie L', O. L. Jacobson

Protected: 'Miss Tulare', Frank Jamison

C. hybrid:

In Open: 'Spring Festival', O. L. Jacobson

Protected: 'Rose Bouquet', Frank Jamison

C. sasanqua:

Best Bloom: 'Bonanza', Robert Summerbell

Best Novice:

'Fire Falls', John Slyker

NUMBER OF ACS MEMBERSHIPS SOLD:

None.

ORLANDO, January 14-15, 1989 (41st Annual)

Sponsor: Camellia Society of Central Florida
No. Blooms Displayed: 1875.

ACS OUTSTANDING BLOOM CERTIFICATES:

Most Outstanding Bloom:

'Mathotiana Supreme', Mr. & Mrs. Lee Roy Smith

C. japonica (In Open)

Large: 'Rosea Superba', Tom Adams

Runner-up: 'Show Time', Bill Boll

Medium: 'Doris Ellis', Bill Boll

Runner-up: 'Kago Kamoka' (sic), John Shirah

C. japonica (Protected)

Large: 'Mary Alice Cox', Frank Jamison

Medium: 'Nuccio's Pearl', Tom Adams

C. reticulata:

In Open: 'Valley Knudsen', Bob Gramling

Protected: 'Valentine Day', Annabelle Fetterman

Runner-up: 'Francie L', Bill Boll

C. hybrid:

In Open: 'Mona Jury', Tom Adams

Runner-up: 'Gay Time', Bill Boll

Protected: 'Rose Bouquet', Frank Jamison

C. sasanqua:

Best Bloom: 'Star Above Star', O. L. Jacobson

Best White:

'Mary Alice Cox', Frank Jamison

ACS GOLD CERTIFICATE:

Tom Adams

ACS SILVER CERTIFICATE:

O. L. Jacobson

NUMBER OF ACS MEMBERSHIPS SOLD:

Three.

MARYLAND

HUNT VALLEY, February 25, 1989 (31st Annual)

Sponsor: Pioneer Camellia Society of Maryland
No. Blooms Displayed: 386. Attendance: 8000.

ACS OUTSTANDING BLOOM CERTIFICATES:

C. japonica (Baltimore Area)

Large: 'Cream Puff', Mr. & Mrs. Harry Kendig

Runner-up: 'Silver Anniversary', Mr. & Mrs. Harry Kendig

Medium: 'Commander Mulroy', Mr. & Mrs. Harry Kendig

Runner-up: 'Glen 40', Mr. & Mrs. Harry Kendig

C. japonica (General Area):

Large: 'Drama Girl', Mr. & Mrs. Frank Chandler

Runner-up: 'Ville de Nantes', William Miller

Medium: 'Margaret Davis', Dr. William L. Ackerman

Runner-up: 'Ella Ward Parsons', Mr. & Mrs. William Sette

C. hybrid:

Best Bloom: 'Fragrant Joy', Dr. Arthur Maryott

Runner-up: 'Ack-Scent', Dr. Arthur Maryott

ACS GOLD CERTIFICATES:

Baltimore Area: Mr. & Mrs. Harry Kendig

General Area: William Miller

ACS SILVER CERTIFICATES:

Baltimore Area: Mr. & Mrs. Frank Chandler

General Area: Mr. & Mrs. Louis Daudt

ACS PROVISIONAL COMMENDED SEEDLING CERTIFICATES:

C. japonica #302, won by Dr. William L. Ackerman, originated by Dr. William L. Ackerman

C. reticulata 'Confucious' x 'Carol Lynn', won by Mrs. Harry Kendig, originated by Dr. William L. Ackerman

ACS OUTSTANDING ARRANGEMENT CERTIFICATES:

Tri-Color: Mrs. Edward Crook, Lutherville Garden Club

Creativity: Elvira Valdez, Lutherville Garden Club

NUMBER OF ACS MEMBERSHIPS SOLD:

None.

NORTH CAROLINA

CHARLOTTE, February 4-5, 1989

Sponsor: Charlotte Camellia Society
No. Blooms Displayed: 1035.

ACS OUTSTANDING BLOOM CERTIFICATES:

C. japonica (In Open)

Large: 'Tomorrow Park Hill', Mr. & Mrs. Marvin Jernigan

Runner-up: 'Clark Hubbs', Parker E. Connor, Jr.

C. japonica (Protected)

Large-Very Large: 'Elegans Splendor', Joe Austin

Runner-up: 'Clark Hubbs', Joe Austin

Medium: 'Ville de Nantes', John T. Newsome

Runner-up: 'Margaret Davis', Annabelle Fetterman

Small: 'Jessie Conner', Mr. & Mrs. Fred Hahn

C. reticulata:

Best Bloom: 'Bill Goertz', Jim Pinkerton

Runner-up: 'Jenny's Joy', Joe Austin

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C. hybrid:

Best Bloom: 'Elegant Beauty', Mr. & Mrs. Fred Hahn

Best White:

'Sarah Alice Ruffin', Mr. & Mrs. Fred Hahn

Best Novice:

'Elegans Var.', Joanne B. Lopata

ACS GOLD CERTIFICATE:

Parker E. Connor, Jr.

ACS SILVER CERTIFICATE:

Mr. & Mrs. Fred Hahn

NUMBER OF ACS MEMBERSHIPS SOLD:

None.

FAYETTEVILLE, March 4-5, 1989

Sponsor: Fayetteville Camellia Club

No. Blooms Displayed: 987. Attendance: 5000.

C. japonica: (In Open)

Large: 'Lady Kay', Elizabeth Brown

Runner-up: 'Helen Bower', Parker E.

Connor, Jr.

C. japonica: (Protected)

Very Large: 'Helen Bower Var.', Joe Austin

Runner-up: 'Ruffian', Mr. & Mrs. Robert

Fowler

Medium: 'Dawn's Early Light', Mr. & Mrs.

Robert Fowler

Runner-up: 'Nuccio's Gem', Joe Austin

Small: 'Little Susie', Mr. & Mrs. J. K.

Blanchard

Runner-up: 'Pink Perfection', Ray Bond

Miniature: 'Grace Albritton', Mr. & Mrs.

J. K. Blanchard

C. reticulata:

Best Bloom: 'Curtain Call', Joe Austin

Runner-up: 'Hulyn Smith', Mr. & Mrs. Robert

Fowler

C. hybrid:

Best Bloom: 'Charlean Var.', Mrs. Ray Watson

Runner-up: 'Pink Dahlia' Sport, Joe Austin

ACS GOLD CERTIFICATES:

In Open: Parker E. Connor

Protected: Mrs. Ray Watson

NUMBER OF ACS MEMBERSHIPS SOLD:

None.

GREENSBORO, March 11-12, 1989 (31st Annual)

Sponsor: Piedmont Camellia Club

No. Blooms Displayed: 830. Attendance: 3000.

ACS OUTSTANDING BLOOM CERTIFICATES:

Most Outstanding Bloom, In Open:

'Dixie Knight Var.', Parker E. Connor, Jr.

Most Outstanding Bloom, Protected:

'Jean Pursel', Joe Austin

C. japonica: (In Open)

Large: 'Rose Dawn', Parker E. Connor, Jr.

Medium: 'Helen Bower Var.', Parker E.

Connor, Jr.

Small: 'Pink Perfection', Parker E. Connor, Jr.

Miniature: 'Tammia', Parker E. Connor, Jr.

C. japonica: (Protected)

Large: 'Elegans Champagne', Joe Austin

Medium: 'Ville de Nantes', Mrs. Ray D.

Watson

Small: 'White Perfection', Mr. & Mrs. Gordon

Howell

Miniature: 'Little Too', Mrs. Ray D. Watson

C. reticulata:

Best Bloom: 'Curtain Call Var.', Joe Austin

C. hybrid:

Best Bloom: 'Mona Jury', Joe Austin

Best White, In Open:

'Sea Foam', Parker E. Connor, Jr.

Best White, Protected:

'Silver Chalice', Joe Austin

Best Novice:

'Julia France', Joe Coyle

ACS GOLD CERTIFICATES:

In Open: Parker E. Connor, Jr.

Protected: Mrs. Ray D. Watson

ACS SILVER CERTIFICATES

In Open: Mr. & Mrs. W. T. Shepherd

Protected: Joe Austin

NUMBER OF ACS MEMBERSHIPS SOLD:

None.

TENNESSEE

CHATTANOOGA, February 25-26, 1989 (25th Annual)

Sponsor: Chattanooga Camellia Club

No. Blooms Displayed: 787. Attendance: 1000+.

ACS OUTSTANDING BLOOM CERTIFICATES:

C. japonica:

Large-Very Large: 'Show Time', John T.

Newsome

Medium-Large: 'Ville de Nantes', John T.

Newsome

Medium: 'Nuccio's Jewel', Mr. & Mrs. George

Griffin

Small: 'Little Babe Var.', George Crawford

Miniature: 'Grace Albritton', Mr. & Mrs.

George Griffin

C. reticulata:

Best Bloom: 'Curtain Call', Mr. & Mrs. H. T.

Brown

C. hybrid:

Best Bloom: 'Julie', John T. Newsome

Best White:

'Ruffian', John T. Newsome

ACS GOLD CERTIFICATE:

Mr. & Mrs. George Griffin

ACS SILVER CERTIFICATE:

Ralph Davidson

NUMBER OF ACS MEMBERSHIPS SOLD:

None.

VIRGINIA

NORFOLK, April 1-2, 1989 (43rd Annual)

Sponsor: Virginia Camellia Society

No. Blooms Displayed: 533. Attendance: 325.

ACS OUTSTANDING BLOOM CERTIFICATES:

C. japonica: (In Open)

Large: 'Drama Girl', William Redwood

Runner-up: 'Elegans Splendor', Mr. & Mrs.

Grover Miller

Medium: 'Betty Sheffield Supreme', Dr. &

Mrs. J. M. Habel

Runner-up: 'Dr. Tinsley', Mr. & Mrs. Grover

Miller

Small: 'Black Tie', John Walsh

Runner-up: 'Grace Albritton', John Walsh

Miniature: 'Grace Albritton', Capt. & Mrs.

D. M. Simon

Runner-up: 'Tammia', Dr. & Mrs. J. M. Habel

C. japonica: (Protected)

Large: 'Show Time', Mr. & Mrs. Ira Hefner

Runner-up: 'Rosea Superba Var.', Dr. & Mrs.

J. M. Habel

Medium: 'Nuccio's Pearl', Dr. & Mrs. J. M.

Habel

Runner-up: 'Sieur de Bienville', Dr. & Mrs.

J. M. Habel

Small: 'Grace Albritton', Dr. & Mrs. J. M.

Habel

Runner-up: 'Baby Pearl', Mr & Mrs. Ira Hefner

C. reticulata:

Best Bloom: 'Jean Pursel', Ira Hefner

Runner-up: 'Royalty', Ira Hefner

C. hybrid:

Best Bloom: 'Elsie Jury', Mr. & Mrs. Grover

Miller

Runner-up: 'Freedom Bell', Ira Hefner

Best White:

'Nuccio's Gem', Mr. & Mrs. Ira E. Hefner

Runner-up: 'Miss Biloxi', Mr. & Mrs. Grover

C. Miller

ACS PROVISIONAL COMMENDED SEEDLING

CERTIFICATE:

C. japonica #915, won by Dr. J. M. Habel,

originated by Dr. J. M. Habel

NUMBER OF ACS MEMBERSHIPS SOLD:

Three.

Special Gifts (As of May 31, 1989)

Dr. John G. Youmans:

27 Silver Bird Medals

Mr. & Mrs. Fred B. Mayo:

Six antique garden urns in memory of
Fred B. Mayo, III

Mr. & Mrs. Dudley P. Boudreaux:

200+ Camellia slides

Kenneth C. Hallstone:

Honorarium—Program San Lorenzo
Garden Club

Mrs. Ed Mathews,

Mrs. Douglas Miller,

Mr. & Mrs. Jack W. Teague and

Mr. & Mrs. William T. Shepherd:

Paper camellias for gift shop

Leslie P. Cawthon:

Honorarium—Program Peachtree Garden Club

Mrs. Lewis M. Fetterman:

Contribution to Endowment Fund

Mr. & Mrs. Ronnie Bowden,

Mr. & Mrs. Charles Bryan,

Mr. & Mrs. Michael Hotchkiss,

Dr. & Mrs. Daniel E. Nathan,

Mr. John Geiser,

Mrs. L. V. Teeter,

Mrs. Milton H. Brown,

Mr. & Mrs. A. B. Cooper,

Dr. & Mrs. J. M. Habel, Jr. and

Mr. & Mrs. Carl M. Allen, Jr.:

Contributions honoring the marriage of Dave

and Elizabeth Scheibert

Mr. & Mrs. Charles W. Blair, Sr.:

Contribution to Arboretum honoring

Dr. Daniel E. Nathan

Dr. Herbert Racoff:

Honorarium—Program Charlotte

Camellia Society

Betty Hotchkiss:

Honorarium—Program Cochran Garden Club

Mr. & Mrs. William T. Shepherd:

Contribution to be used for horticultural

purposes in garden

Dr. & Mrs. Earl Beatty, Jr.:

Contribution in memory of Liebschen Nathan,

Beloved Pet and Walking Companion of Dr. &

Mrs. Dan Nathan

Mr. & Mrs. Mayo Lacy and

Mrs. Milton H. Brown:

Contributions honoring Mr. & Mrs. Ed Mathews

on their 50th Wedding Anniversary

Mr. & Mrs. Thomas C. Evans,

Mrs. Milton H. Brown and

Mr. & Mrs. Mayo Lacy:

Contributions honoring Dr. Dan Nathan

on his birthday

Mr. & Mrs. W. F. Mann:

Contributions wishing better health to Al Parker

and Dan Nathan and a speedy recovery after

heart surgery for Dr. Fred Lee

Dr. & Mrs. Daniel E. Nathan and

Mrs. Milton H. Brown:

Contributions honoring Thomas C. Evanses on

their wedding anniversary

Sustaining Joint Sustaining (Since May 1989 Journal)

Mr. Ike Flatau, Macon, GA

Gillmore's Nursery,

W. L. Gilmore, Conroe, TX

Mr. & Mrs. Hulitt Johnson, Griffin, GA

Mr. Floyd C. Newton, Jr., Madison, GA

Mr. Robert P. Woltz, Jr., Fort Worth, TX

Patrons

(Since May 1989 Journal)

Jeanne Livingston / John Svitsky, Garrison, NY

Mr. & Mrs. Thomas V. Pollard, Griffin, GA

Mr. & Mrs. Robert L. Tolman, Fort Valley, GA

ACS Slide Sets

Your Headquarters offers 17 different slide programs for the use of individuals or local societies. Each set comes with a text which may be used by the person presenting the programs. These slide sets deal with various aspects of camellia culture and illustrate many camellia varieties.

The slide sets are sent First Class Mail about 10 days prior to the date requested. They will be reserved in advance on a first-come, first-serve basis. We currently have 2 or 3 copies of some of the more popular sets, however, a second choice should be indicated. We suggest a \$10 donation to cover postage and handling and the cost of updating sets with new slides.

1. **GOOD GARDEN VARIETIES**— This set contains about 60 slides of camellia varieties which do well in outdoor plantings in most camellia areas. Different forms, colors, and blooming season are given in the text.
2. **NEW VARIETIES**—This set is continually being revised as new varieties from throughout the U.S. are registered with ACS. The text gives the originator and parents of the new variety if known as well as other information on bloom size and season. Slides are provided by the person registering the variety.
3. **JUDGES HAVE SPOKEN**—Over 80 slides in set. Features varieties which were big show winners during the 1986-87 season. Updated in December to include those from 1987-88. Taken from the Year-book article each year.
4. **CAMELLIA FAMILIES**—Over 60 slides. This interesting set of slides illustrates some of the major camellia families including the 'Betty Sheffield', 'Tomorrow', and 'Elegans' families.
5. **COLD HARDY CAMELLIAS**—About 60 slides. Includes slides of Dr. Ackerman's newest releases of camellia hybrids which are hardy to temperatures of -12°F. Also included are *C. japonicas* which will bloom successfully in camellia growing areas following all but the most severe winter.
6. **AWARD WINNING CAMELLIAS**—Over 80 slides. This set includes slides of all ACS National Camellia awards. Included are the Ilges Seedling Japonica Award, the Peer Sasanqua Award, the Sewell Mutant Award, the Harris Hybrid Award, the Arminta Cawood Award, the Harold Cawood Award, the John A. Tyler, Jr. Miniature Award, The Australian Camellia Research Society Trophy, and the Hall of Fame Winners.
7. **HYBRIDIZING IS FUN**—40 slides. Learn how the experts produce new varieties. These excellent "how-to" slides and text describe how simple it is for anyone to become a camellia hybridizer.
8. **GIBBING**—20 slides. The articles and slides describe what gibberellic acid is, what it does for camellias, and how to apply it to obtain earlier and larger camellia blooms. Excellent for novice growers.
9. **GRAFTING**—57 slides. This set includes sections on cleft grafting, cutting grafts, and grafting the big ones. Articles on grafting are included with the text. Another excellent set for novice growers.
10. **DISEASES AND PESTS**—About 50 slides. This set of slides illustrating common camellia problems is designed to help both the novice and experienced grower diagnose camellia ills.
11. **A VISIT TO MASSEE LANE**—Approximately 80 slides. The year 1988 marked the 20th anniversary of the ACS Headquarters move to Massee Lane, our permanent home. This slide set highlights the beautiful gardens and interesting collections of Massee Lane. Many new slides have been added this year to illustrate the changes of the past few years.
12. **AWARD WINNING ARTISTIC ARRANGEMENTS**—Approximately 40 or 80 slides as requested. Camellia arrangements which have won in various camellia shows throughout the country are shown here.
13. **CAMELLIA GARDENS THROUGHOUT THE U.S.**—60 slides. New last year. This slide set illustrates some of the major gardens in the U.S. which feature camellias. Nine gardens are included.
14. **CAMELLIA SPECIES**—Approximately 60 slides. New last year. This set includes most of the camellia species which are now known in the U.S. Descriptions of each species are included. These slides illustrate the diversity within the camellia family.
15. **PROMOTING FRAGRANCE IN THE CAMELLIA**—32 slides. New last year. Prepared by Ken Hallstone, this slide set records the development of fragrant camellias by major hybridizers in the U.S.
16. **THE MINIATURES**—About 80 slides. New!! Miniature camellias are becoming more popular throughout shows in the U.S. They also make excellent additions to the landscape. The text includes information on the blooming season and originator if known.
17. **1988-89 SLIDE CONTEST**—60 slides. New!! This set features the winning slides and some of the entries in the slide contest held by ACS and judged in April. Many entries were received and these slides will make a beautiful and interesting program.

*Now is the time
to order
Show Prizes!*

Camellia Napkin Rings
\$4.25 each

Camellia Place Mats
\$28.00 set of 4

Camellia Coasters
\$12.00 set of 6

Camellia Mahogany Serving Tray
\$42.00

Glazed Camellia Figurine
\$8.00

Camellia Potpourri Dish
\$13.00

NEW!

Quill Pens
with 'Betty Sheffield Supreme'
on top

Lifetime Guarantee

Black Matte, \$16.

Pink or White Pearl, \$20.

Packing and Delivery:

For Orders Totalling	Include
Up to \$9.99	\$2.15
\$10.00-19.99	\$3.50
\$20.00-29.99	\$4.35
\$30.00-39.99	\$5.25
\$40.00-49.99	\$6.55
\$50.00-74.99	\$8.00
\$75.00-99.99	\$8.80
\$100.00-149.00	\$11.00

Over \$150.00 actual cost will be added to bill or credit card.

MAIL ORDER & REMITTANCE TO

American Camellia Society
P.O. Box 1217
Fort Valley, GA 31030

Dues Notice

On April 7, 1989 the Governing Board voted an annual dues increase to \$17.50 for a single and \$20.00 for a joint membership effective January 1, 1990. Dues notices for 1990 will be sent by early November 1989. Save us time and postage by mailing them early.

Camellia Slide Contest Results

The camellia slide contest was very successful with a total of 176 slides entered. Several different categories were outlined for the competition. However, the majority of slides fell into the category of individual blooms of *Camellia japonica*. Over half of the slides entered in the contest were in this category and the decisions for judging were difficult. The distinguished judges for this event were the ACS office staff who worked after hours to evaluate these slides. The first showing of the winners was April 8, 1989 at the ACS Annual Convention held at Masee Lane.

Category I
(Slide of a single bloom)

- A. *Camellia japonica*
First: Mr. and Mrs. Dudley Boudreaux 'Campari'
Second: Mr. James Henkel 'Miss Charleston'
Third: Mr. and Mrs. Dudley Boudreaux 'Granada'
- B. *Camellia sasanqua*
no entries
- C. *Camellia reticulata*
First: Mr. and Mrs. Dudley Boudreaux 'Francie L'
Second: Mr. and Mrs. Dudley Boudreaux 'Dr. Emil Carroll'
Third: Dr. Carter Anderson 'Fire Chief'

- D. *Camellia hybrid* (non-reticulata)
First: Mr. and Mrs. Dudley Boudreaux 'Charlean'
Second: Mr. and Mrs. Dudley Boudreaux 'Julie Var.'
Third: Mr. and Mrs. Dudley Boudreaux 'Swan Lake'

Category II
(Camellia species bloom, spray, or bush)

no entries

Category III (Camellia plant)

- First: Mr. Mike Hotchkiss
Second: Mr. and Mrs. Dudley Boudreaux
Third: Mr. Ed Atkins

Category IV

(Camellias in a landscape)

- First: Mr. and Mrs. Dudley Boudreaux
Second: Mr. James Henkel
Third: Mr. Mike Hotchkiss

Category V (Club activity)

- First: Mr. Mike Hotchkiss
Second: Mr. Mike Hotchkiss
Third: Mr. Ed Atkins

Category VI

(Creative use of camellias)

- First: Mr. James Henkel
Second: Mr. James Henkel

The winning slides and others entered in the contest will be available for use as a program by clubs and individuals. (Refer to the article on Slide Sets Available elsewhere in this *Journal*.) We would like to thank all of the participants and encourage others to continue taking slides for future contests.

SHOW DATES (ACS Cooperative Shows)

PLACE, LOCATION, SPONSOR

DATE

Natchez, MS; Eola Hotel.....	October 20, 1989
Fort Valley, Ga; Masee Lane; Middle Georgia Camellia Society.....	November 11-12, 1989
Gulfport, MS; Gulfport Area Camellia Society.....	November 18-19, 1989
Valdosta, GA; Valdosta Garden Center; Valdosta Camellia Society.....	November 18-19, 1989
Jacksonville, FL; Grande Boulevard Mall; Camellia Society of N. Florida.....	December 2, 1989
Albany, GA; Albany Mall; Albany Men's Garden Club.....	December 2, 1989
Slidell, LA; Slidell City Auditorium; Ozone Camellia Club.....	December 2-3, 1989
Pensacola, FL; The Wright Place; Men's Camellia Club of Pensacola.....	November 9-10, 1989
Lafayette, LA; Lafayette Natural History Museum; South Louisiana Camellia Society.....	December 9-10, 1989
Gainesville, FL; Oaks Mall; Gainesville Camellia Society.....	January 6, 1990
Tallahassee, FL; Tallahassee Mall; Camellia & Garden Club of Tallahassee.....	January 6-7, 1990
Baton Rouge, LA; Baton Rouge Camellia Society.....	January 6-7, 1990
New Orleans, LA; Camellia Club of New Orleans.....	January 13, 1990
Tampa, FL; Eastlake Square Mall; Tampa Bay Area Camellia Society.....	January 13-14, 1990
Ruston, LA; Holiday Inn; Ruston Camellia Society.....	January 13-14, 1990
Lake Charles, LA; Gayle Hall, McNeese State University; Southwest Louisiana Camellia Society.....	January 20, 1990
Dallas, TX; Dallas Civic Center; Dallas Camellia Society.....	January 20, 1990
Mobile, AL; Camellia Club of Mobile.....	January 20-21, 1990
Orlando, FL; Olympia Place; Camellia Society of Central Florida.....	January 20-21, 1990
Aiken, SC; Aiken Camellia Club.....	January 20-21, 1990
Charleston, SC; Citadel Mall; Coastal Carolina Camellia Society and Citadel Mall Merchants' Association.....	January 27, 1990
Lakeland, FL; First Federal Florida; First Federal Florida.....	January 27-28, 1990
Thomasville, GA; Thomasville Garden Center; Thomasville Garden Club, Inc.....	January 27-28, 1990
Jackson, MS; Deposit Guaranty National Bank Plaza; Jackson Camellia Society.....	February 3-4, 1990
Birmingham, AL; Birmingham Botanical Gardens; Birmingham Camellia Society.....	February 10-11, 1990
Tyler, TX; First City National Bank, Main Lobby; Tyler Camellia Club.....	February 11, 1990
Atlanta, GA; Day Hall, Atlanta Botanical Garden; North Georgia Camellia Society.....	February 17-18, 1990
Fort Worth, TX; Conservatory, Botanic Garden; Fort Worth Camellia Society.....	February 17, 1990
Warner Robins, GA; Houston Mall; Middle Georgia Camellia Society.....	March 3, 1990
Slidell, LA; Slidell City Auditorium; Ozone Camellia Club.....	December 1-2, 1990

About Our Back Cover Camellia

'Ashley McComb'

Ashley Dawn McComb is the 8 year-old granddaughter of Jane Porter Moon, Lake Charles, LA and attends St. Joseph's Catholic School in Jeanerette, LA. She has won titles in several children's beauty pageants, including "Little Miss Lake Charles" and "Miss Petite" in the Christmas Pageant in New Iberia. Her hobbies include GROWING CAMELLIAS. She is a fourth generation ACS Best Bloom in Show winner and was awarded the ACS Outstanding Bloom certificate in the 1986 Southwest Louisiana Camellia Show held in Lake Charles. She also was awarded ribbons in the 1988 South Louisiana Camellia Show held in Lafayette. In the Birmingham Camellia Show this past spring, she won Best Small Bloom with 'Little Babe'. In addition to growing prize winning camellias, Ashley enjoys swimming, horseback riding, softball and gymnastics. She is an active "Brownie" in the Girl Scout organization.

Editor's Note: ACS Wishes continued success for this young grower.

From the Desk of the



Executive Director

Summer has come early to Massee Lane. Although the calendar says that it will officially begin in a few weeks, Mother Nature got a headstart. We have had several days of temperatures in the high 90's and no rain. Our twenty-year-old irrigating system is still functioning—not without problems, however.

I want to take this opportunity to thank all of you who attended the convention at Massee Lane. It was a very exciting time for your staff at Massee Lane and they and their spouses went "far beyond" the call of duty in preparing for the convention and dedication. All of us appreciate your many cards, notes and phone calls praising the events.

We are now preparing for the Peach Festival June 22-24. We will be hosting a Fashion Show and Luncheon in conjunction with First South Bank in the Annabelle Lundy Fetterman Exhibition Hall. This will be the first event of the festival and we expect a capacity crowd. Susan Plummer is serving as chairman with help from the rest of the staff. You will be happy to know that the ACS Gift Shop in the new building continues to do a fine business. Please continue to let us supply not only your prizes for shows but we will be happy to mail, gift wrapped, that special gift for the bride, a birthday or any other special day.

Ann Blair Brown

Although this is usually a slow season after the camellias, we have been surprised by the number of guests as well as a few tours that have visited us. There have been several events held in the Annabelle Lundy Fetterman Educational Museum and bookings are strong throughout 1989. Not only does the rental bring income but it brings people to the garden that might not otherwise come. We have had "rave" reviews from those who have attended functions held here.

Dan Nathan, chairman of the Arboretum Committee, could not attend the committee meeting due to illness. He had done his homework and the preliminary plans were presented to the committee. Several changes will be made and work is expected to begin in the Fall. This arboretum and lake will honor the memory of Milton H. Brown and Douglas Deane Hall. This will add another interesting feature to our garden. The Japanese Garden and the Rose Garden are very popular with our guests.

You will note that this is a special issue on Heat and Cold Hardiness.

During the administration of Annabelle Fetterman, it was decided that a Special Issue of the Journal be initiated. Gene Snooks, Publications Chairman and the Executive Director reviewed the past Special Issues and felt that an issue on heat tolerance and cold hardiness would be of interest to our members. Dave Scheibert volunteered to be the Guest Editor. He contacted members around the world seeking information on these two topics. I think you will be pleased with his results.

This past season was truly outstanding and the show tables overflowed with quality blooms. This is a very good time to get a new member for ACS. You will not only be helping us to increase our membership but you will be doing a friend a favor. Send in a new member TODAY.

Mobile Camellia Society will be celebrating its 50th anniversary in January and issued an invitation for the Spring Annual Convention. You will see the details elsewhere in this issue. Southern California Camellia Society is celebrating its 50th anniversary this year. Congratulations to both of these fine organizations.

All of us at Headquarters hope that you will enjoy a most pleasant summer and that your camellias will put on much growth and fine buds. See you in Natchez.

40th Anniversary Campaign

The following have made pledges or contributed to the Campaign since the May 1989 Journal.

Mr. & Mrs. Carl M. Allen, Jr.
Mr. & Mrs. A. Emmett Barnes, III

Mr. & Mrs. Charles W. Blair, Sr.
Leslie P. Cawthon

Central California

Camellia Society

Mr. & Mrs. Ned E. Downs
Lewis M. Fetterman

Mr. & Mrs. Frank Jamison
May S. Norgan

Mr. & Mrs. William C. Robertson

Mr. & Mrs. Howard C. Royce

Mr. & Mrs. W. T. Shepherd
G. Stuart Watson



'Ashley McComb'
Camellia japonica

Ashley's choice, a large dark pink peony center of 40 petaloids surrounded by a skirt of 4 rows of 27 large petals. Mid-season blooming chance seedling of Ferol and Sam Zerkowsky. Grafts available Tammia Nursery November 1990. Come see blooms at Tammia Nursery OPEN HOUSE during Slidell Camellia Show December 2, 3, 1989.