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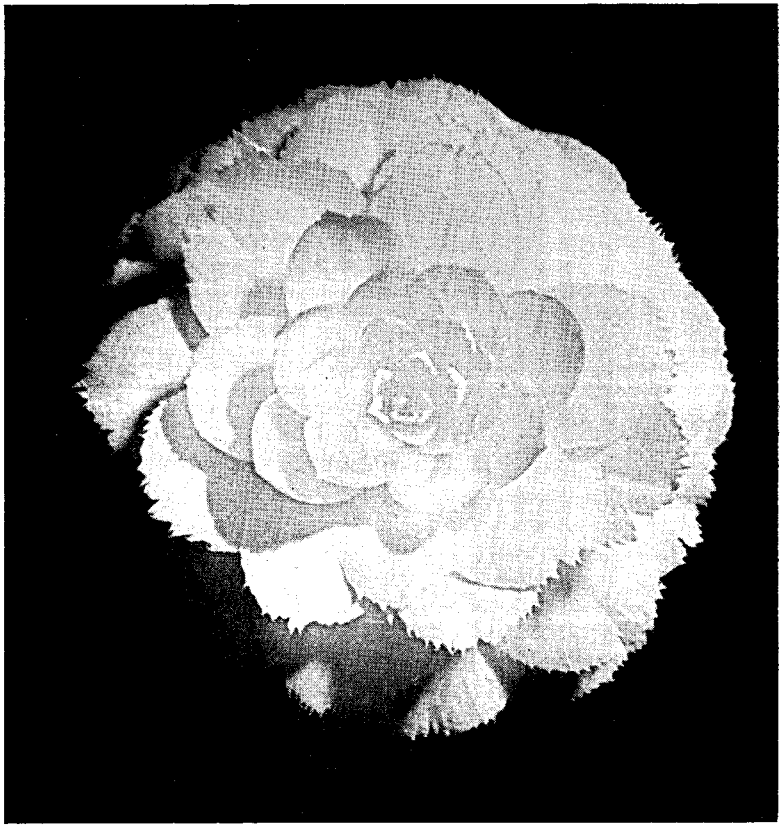

FIMBRIATA *

FIMBRIATA (Alba Plena Fimbriata)—Probably a snow-white, fimbriated Sport of ALBA PLENA. Complete double, regular imbricated. The petals overlap regularly as shingles on a roof. Slow, bushy, spreading growth.

Discovered in China and introduced to England in 1826.

FIMBRIATA is one of the four fimbriated varieties of C. Japonica known to commerce. Dr. Walker M. Wells, who carries a degree in Botany besides that of M.D., tells us that the fimbriated character has never been reported to be a dominant characteristic in any seedling or sexually-reproduced Camellia. All the fimbriated forms have been derived from mutations or sports of plain-petaled varieties, and frequently these fimbriated varieties revert to the plain forms.

*Courtesy Gordon Courtright, East Bay Nursery, Berkeley.
Photograph by our retired Director, Herbert V. Mitchell, Oakland.

PROPAGATION OF CAMELLIAS BY CUTTINGS

By O. E. Hopfer, Past President

As many of you know, my chief interests in camellias are in propagating and hybridizing. Last year I led a panel discussion and demonstration of propagation by grafting, and this evening I should like to give a general coverage of the subject of propagation by rooting cuttings. There are probably as many different methods of handling cuttings as there are propagators, and I do not want anyone to interpret my remarks as outlining the BEST method. Instead, I shall describe the manner in which I handle cuttings. If you find a few stray thoughts that you can adapt to your own advantage, go ahead and use them. But if you feel that your method is better than mine, stay with it.

I am strictly a camellia hobbyist; I raise camellias solely for my own amazement. That is one of the reasons why I do not handle my cuttings as I would if I were a commercial nurseryman and had to consider the length of time required to root a cutting because it made a difference in dollars and cents. I am like the boys in Alcatraz. I'm not going anywhere, and it makes no difference to me whether camellia cuttings root in six weeks or in six months.

This talk was given at the regular meeting of the Northern California Camellia Society on November 1, 1948.

THE DECEMBER MEETING

The December meeting of the Northern California Camellia Society will be held Monday evening, December 6, 1948, at 8 o'clock at the Chabot School Auditorium, on Chabot Road about one-half mile east of College Avenue, at the corner of Patton Street, Oakland.

Display of Camellia blooms grown by members. Please bring blooms by 7:30 or by 7:45 the latest. (Note the outstanding exhibitor's prize!)

Announcement and Remarks, President D. L. Feathers.

Illustrated Lecture covering a wide range of topics, such as varieties for spreading bloom over a long season, Carter introductions, new varieties; selection of plants as to good root systems; discolorations of leaves and what they mean, and remedies, if they are injurious; methods of planting and suggestions for the care of plants; some interesting experiences in connection with Camellias. Questions and answers. E. H. Carter, Proprietor, Carter's Camellia Gardens, Monterey Park, California.

DRAWING OF PRIZES:

Donated by Vernon R. James, Proprietor, James Rare Plant Nursery, 605 So. San Jose-Los Gatos Road, Campbell, California.

EXHIBITOR'S PRIZE:

DOROTHEA BLANCHE (CHIYO NO HANAGATA) Flesh pink, fluted incomplete double. Exquisite.

DOOR PRIZES:

(1) TINSIE—Rare miniature. Bright red guard petals, white petaloid center.

(2) WOODVILLE RED—Very large, brilliant red, full peony type. Recognized for its size, shape and color.

Taking Cuttings

For this reason I take cuttings of half-ripened wood in the late fall, after the stems have just turned brown and the leaves have attained that full, glossy appearance. It takes these cuttings much longer to root than cuttings made of soft wood during June and July; but these hard-wood cuttings are much sturdier and do not require the constant attention necessary for soft-wood cuttings. If I made soft-wood cuttings in mid-summer and some day while I was at my office the sun made a broiler out of my hotbeds, all of my cuttings would be burned to a crisp by the time I returned home in the evening. So I wait until October, when the wood is harder and the hot weather is over, before I take my cuttings. These hard-wood cuttings root more slowly than soft-wood cuttings, but the losses are much less.

Commercial growers usually like to make their cuttings of green wood, when the stems are turgid and will snap upon bending. Such cuttings will root in a month to six weeks; but the nurseryman must be right on the job to control the humidity and temperature, or he, too, will have the experience of having the sun broil his cuttings. But he is in the nursery business and is on the job during business hours, while I am not — and many of you are also away from home during the day and cannot give soft-wood cuttings the full attention which they must have.

Now I have brought with me a group of samples of cuttings which I wish to have passed along. The first group will show you cuttings with soft, green stems and soft, tender leaves which will wilt with inattention. This is the kind of wood I would advise the beginner to stay away from. The second group of cuttings is made of wood which is turning from green to reddish brown, with the leaves hard and shiny. This is the kind of wood with which the average amateur will succeed.

The kind of wood does not tell the entire story, however, because different varieties react differently in rooting. I root a great many cuttings of

(Continued on page 12)

FERTILIZATION OF CAMELLIAS

By William B. Smyth, Ross

Tonight I shall speak about my experience with camellia fertilizers in the nursery.

When to Apply

Fertilizer should be applied in the spring, well before the new flush of growth has started—about the middle of March in Marin County—possibly earlier or later in other localities. If fertilizer is applied before the new flush of growth comes, your plant will have the benefit of it.

Some camellia growers recommend fertilizing after blooming is over; but it is necessary to wait a while to accomplish this. You will notice that if fertilizer is applied before the plants have finished blooming, and if they are watered or rains come, the flowers become larger. The nutrients immediately become available to the plant if a nice rain comes along and soaks the fertilizer in.

A second and third application is usually necessary and should be put on from 4, 5 to 6 weeks after the first application. That would be about the end of April and then again about the first of June. It isn't always necessary to make three applications, but that is the general rule. The thing to strive for is a good dark-green condition of the foliage. If you have that, you know the plants are getting sufficient fertilizer.

Then, for camellia show purposes, some camellia growers give a little extra fertilizer in November; but not so much as is given in the spring. This will help to increase the size of the flowers if you desire that. Personally, I like to let them bloom normally. Some varieties will produce such large flowers that they become coarse and heavy. This is true of C. M. Hovey or Julia Drayton.

Types of Fertilizers

There are three types of fertilizers: (1) Liquid fertilizer, which is relatively new.

(2) Granulated or powder form like **RAC, Bandini,** Cotton Seed Meal, or **Atlas Fish Emulsion.**

(3) Organic fertilizer such as manure.

Liquid Fertilizers

Considering liquid fertilizers, I have had experience with the brands called **Likwid Grow, California Liquid Fertilizer,** and **Atlas Fish Emulsion.**

If you want a lot of growth and fast growth, I recommend **Likwid Grow.** It is high in nitrogen and it really seems to step up the plant.

California Liquid Fertilizer, on the other hand, is low in nitrogen and high in phosphorus and potash. It is supposed to bud up camellias. I haven't noticed any more budding after applying it; but I haven't used it very long.

Atlas Fish Emulsion is high in nitrogen. It is not so easy to burn your plants with this fertilizer. I have used it on one-year grafts of Camellia Japonica and Reticulata. No harm was done in either case, where if some other kind had been used, it is possible the grafts would have been injured. It is usually not wise to fertilize grafts until they are at least three years old.

Moist Condition of Ground

It is well to have the ground moist before fertilizing. This is true of both granulated and liquid fertilizers. Sprinkle the fertilizer lightly on the ground and soak it in immediately; likewise, scratch it in. It is also well to have a mulch of 2 or 3 inches of pine needles or peat moss or leaf mold.

When applying liquid fertilizer, it is absolutely necessary that the ground be wet down one or two days before.

In the nursery, we use liquid fertilizers with a proportioner that gives a

The above talk was given at the November 4, 1948 meeting of the N.C.C.S.

ratio of 15 to 1, after first being diluted with water, 1 part fertilizer to 18 parts water, in a bucket. (Equals 1 part fertilizer to 270 parts water.—Ed.)

Amount of Fertilizer

I have found that the quantities of fertilizer recommended by the manufacturing companies are likely to be too strong. For example, Pacific Guano directions call for 1 teaspoon of RAC to a 4-inch pot; 2 teaspoons to a 6-inch pot; and 4 teaspoons to an 8-inch pot. I am of the opinion that this is entirely too much for one application, as it is easy to burn plants with concentrated commercial fertilizers.

Over-Fertilization

If the camellia plant has been over-fertilized, the roots that have been burned get brown and weak. You can put your finger down and break the root very easily. If, after taking the plant out of the pot, you find that the roots are brown, you may be sure that you have over-fertilized. A long time is required to repair the injury done. If badly burned, the plant may take five or six years to come back into condition. It is better to be on the safe side and use a smaller amount of fertilizer.

There is another way of telling whether the plant is over-fertilized: if you notice the plant wilting a little although the ground seems to be wet enough; if the leaves are drooping a bit. Even hardened-off growth will tend to droop a bit if the camellia is too heavily fertilized.

To Correct for Over-Fertilization

If you have over-fertilized, the thing to do is to scrape off the top mulch immediately and replace it with an entirely new mulch. If there is no mulch, the top half-inch of soil should be scraped off. The plants should then be thoroughly watered in order to leach the fertilizer out of the soil. By applying this treatment, the plant won't be injured any further due to fertilizer being taken down into the soil by the water.

Organic Fertilizer

In the nursery we have two Pink Perfection trees that have been there for seventy to seventy-five years. They were the first camellias that I ever knew, and they produced beautiful flowers. My father used to apply cow manure once a year. He had the most lovely Pink Perfections that I have ever seen. But since these plants have been fertilized with commercial fertilizer, they no longer produce the quality of blooms that they did with just one application of manure a year.

Cotton Seed Meal

I have used plain Cotton Seed Meal and like it very much. It contains lots of nitrogen and produces lots of growth.

Fish Meal

Fish meal is extremely high in nitrogen.

Formula

The formula that we use at the nursery is as follows:

10 lbs. Cotton Seed Meal
4 lbs. Superphosphorus, 18 to 20 per cent in strength
2 lbs. Sulphate of Potash, 48 to 50 per cent in strength.

We have had excellent results from it.

Some growers add Aluminum Sulfate to that formula to make it a little more acid.

Questions and Answers

QUESTION: What time of year would you use cow manure?

ANSWER: At the same time as other fertilizers; in the spring. But don't use fresh manure; if you do, you will have a lot of burn.

There is another organic fertilizer from which growers are getting excellent results: processed rabbit manure, called "Rabbitlizer," which comes from Los Angeles. Those using it on plants in containers say they have not gotten any burns from it.

QUESTION: How do you recommend applying Likwid Grow?

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OVERLOOK SEEDLINGS

By K. Sawada, Mgr., Overlook Nurseries, Mobile, Alabama

The year 1917 marks the beginning of the writer's experience with camellia seeds. From that time to 1940, he raised about 50,000 C. Japonica seedlings. From all these seedlings, 24 varieties were selected and placed on the market.

The following list gives some data, such as variety, characteristics, date of seed planting for the 24 varieties, known as Overlook Varieties, originated by K. Sawada.

Seed Planted 1925-26*

MRS. K. SAWADA (U. S. Patent No. 481) First bloom 1934-35. Complete double imbricated, 3-3½" diameter; self-white faintly blushed with pink; blooms Jan.-Mar.; small, oval, finely serrated, dark, shiny-green foliage; rapid grower, upright, with slender but compact branches.

K. SAWADA (U. S. Patent No. 431) First bloom 1933-34. Incomplete double imbricated, 4-5"; self-white; blooms Dec.-Feb.; medium oval, coarsely serrated, dull green leaves; vigorous grower, rather upright.

S. IMURA. First bloom 1929-30. Semi-double, 5-6"; self-white; blooms Dec.-Feb.; medium, narrow, somewhat convex, finely serrated, dark-green foliage; upright with semi-weeping branches.

SARASA. First bloom 1929-30. Semi-double, 4½-5"; flesh color, spotted or striped with darker pink; blooms Nov.-Feb.; oval, medium to large, dark-green, coarsely serrated leaves; upright with well-balanced, spreading branches.

ROBERT NORTON. First bloom 1933-34. Semi-double, 4½-5½"; self-white with few pink stripes; blooms Nov.-Feb.; oval, medium to large, coarsely serrated, somewhat convex, dark shiny-green foliage; upright, with well spreading branches.

ROSE MALLOW. First bloom 1936-37. Semi-double, 4½-5½"; soft pink with darker veins; blooms Jan.-Feb.; very large and thick textured, coarsely serrated, dark shiny-green leaves; slow grower with coarse and stout branches.

LURIE'S FAVORITE. First bloom 1934-35. Semi-double, 4-5"; lavender pink; blooms Jan.-Feb.; small, finely serrated, somewhat convex, thick textured, shiny-green leaves; upright with compact branches; rather slow grower.

QUEEN BESSIE. First bloom 1934-35. Semi-double, 4-5"; self-white, flushes faintly around the center; blooms Jan.-Feb.; very large, shiny green foliage; vigorous, and upright grower.

RISING SUN. First bloom 1934-35. Single, 3½-4"; turkey red, red filaments; blooms Jan.-Feb.; medium, shiny, leathery appearance of leaves; slow grower, especially on own root.

FRIZZLE WHITE. First bloom 1934-35. Semi-double, some flowers loose peony type; 4½-5½" and sometimes over 6"; self-white; blooms Jan.-Feb.; narrow, tapering, medium, serrated foliage; good grower but not too vigorous.

TRICOLOR SUPERBA. First bloom 1934-35. Semi-double, 4-5"; mostly white with pink stripes, some variegated like Herme, also some solid red; blooms Jan.-Feb.; medium-sized leaves do not crinkle like regular Tricolor; good grower.

Seed Planted 1931-32*

WHITE KING. First bloom 1937-38. Semi-double, 3½-4½"; self-white; blooms Dec.-Feb.; medium to large, thick textured, coarsely serrated foliage; upright grower.

WHITE QUEEN. First bloom 1937-38. Semi-double with narrow, pointed petals; 4½-5½"; self-white; blooms Jan.-Mar.; medium thin-textured, somewhat crinkled leaves; good grower with upright branches.

*Blooming season is for Alabama.

SHIRO BOTAN. First bloom 1937-38. Semi-double, before it is fully open the flower resembles cup and saucer; 4-5"; self-white; medium to large with dark shiny-green foliage; very vigorous grower with upright, spreading branches.

WHITE GIANT. First bloom 1938-39. Semi-double, 4½-5½"; self-white; blooms Jan.-Mar.; very large, thick-textured, dark shiny-green foliage; vigorous grower with strong upright branches.

VICTORY WHITE. First bloom 1938-39. Semi-double, loose peony; 4½-5"; self-white; blooms Jan.-Feb.; large thick textured, with dark-green leaves; vigorous grower with upright but well-spreading branches.

WHITE EMPRESS. First bloom 1938-39. Semi-double, 5-6"; self-white; blooms Dec.-Feb.; medium to large, extra dark shiny-green foliage; vigorous, with spreading branches.

BLUSH HIBISCUS. First bloom 1939-40. Semi-double, 5-5½"; white with faint blush; blooms Jan.-Feb.; large, and medium-thick, dull-green leaves; vigorous, upright grower.

LIBERTY BELL. First bloom 1939-40. Semi-double, loose peony; 5-5½"; self-white; blooms Jan.-Feb.; medium-large and medium-thick leaves; vigorous grower with spreading branches.

RED HIBISCUS. First bloom 1938-39. Semi-double, some flowers loose peony; 4½-5"; dark pink to red; blooms Oct.-Jan.; medium-sized, thick textured, coarsely serrated foliage; slow grower, stiff upright branches.

SMILING BEAUTY. First bloom 1939-40. Semi-double, 4½-5"; very delicate; flesh pink; blooms Nov.-Jan.; small oval-shaped, very dark-green leaves; upright, slender branches.

WHITE HIBISCUS. First bloom 1939-40. Semi-double, 4½-5½"; self-white; blooms Dec.-Feb.; narrow, thin textured, somewhat crinkled leaves; vigorous upright growth with slender branches.

ROYAL WHITE. First bloom 1941-42. Incomplete double imbricated; 4-5"; self-white; blooms Jan.-March; large, roundish, thick-textured, very dark-green foliage; grows with spreading branches.

VICTORY MAID. First bloom 1941-42. Incomplete double imbricated, 3-4"; self-white; blooms Jan.-March; medium, thin, somewhat crinkled leaves; upright grower.

According to the results of these seedling experiments, the ratio is one good flower for every 200 seeds. The above varieties came from seeds planted in 1925-26 and 1931-32. In 1925, 2,000 seeds were planted and 11 seedlings were selected from this group, yielding a ratio of 1 in 182. From the 1931-32 planting, thirteen good varieties were obtained from 3,000 seeds, giving a ratio of 1 in 231.

During these years, the writer had a relative in Japan who could personally collect seeds from only the very best plants on the Island. Considering this fact, one may conclude that the finer flower seldom comes from poorly-flowered parents. Also, the best selected seed does not always bring good results because there are so many genetical complexities involved. One would be considered very lucky indeed if he secured even one good variety.

Since 1940, many thousands of seeds have been planted by the writer. Because these are his own seeds, at least one of the parents is known. Since 1945, controlled pollination (selfing and hand-pollination) has been used. It is sincerely hoped that a more scientific report can be offered in the near future.

CAMELLIA FELLOWSHIP

Mr. Austin Griffiths, Jr., of Anaheim, California, has been appointed to hold the American Camellia Society Fellowship, at the University of Florida. He will work toward his Master's degree in Horticulture and on a research problem in some phase of camellia culture. The Fellowship runs for two years.

JAPANESE CAMELLIA VARIETIES

By Toichi Domoto, Hayward, California

This article on Japanese camellia imports is written largely from memory, since most of the invoices of my father's firm were lost at the time of the evacuation. Except for a few personal letters and brief notes, exact dates are lacking on shipments during the period from 1900 to 1926. Imports since then, made by the writer, were limited, due to Quarantine No. 37; however, dates and varieties are authentic.

The early catalogs and invoices of Domoto Brothers do not list camellias by variety. They show only the number imported and the price per unit.

The 1896 catalog of Domoto Brothers as well as the 1891 catalog of the Yokohama Gardeners' Association, show the names of varieties which we still grow; such as, **Shiragiku** (Purity), **Kumasaka, Daikagura, Mikenjaku,** and **Usu Otome.**

The last named, **Usu Otome,** was renamed **Pink Perfection** by my father on the first group of plants imported to San Francisco about 1887. By November, 1895, the name **Pink Perfection** was accepted by the trade, according to a memorandum from Mr. F. Ludemann of the Pacific Nursery.

Baker, between Lombard and Chestnut Streets in San Francisco inquires, "Have you good healthy and well-rooted plants of **Pink Perfection** camellias? If so, please state size and price per dozen." Now hold your breath for wholesale prices of that date: "18-24 inches, $3.00 per dozen, $20.00 per hundred; potted $3.50 to $4.00 per dozen, $25.00 per hundred; 12-18 inch size at $16.50 per hundred for balled and moss-wrapped plants."

The Pacific Nurseries were handling quite a few of the European varieties, mostly grafts, brought in from Europe and from the East Coast at that time.

The varieties imported then were mostly **Pink Perfection, Shiragiku, Daikagura, Hikari Gengi,** and **Otome Red. Kumasaka** was not imported in quantity until a much later date.

Sodekakushi (Lotus, Grandiflora Alba) was imported in the early 1900's but, due to the weak character of growth, the premium prices asked in Japan, and the subsequent heavy losses of the imported plants, the importing of this variety was discontinued by my father. Most of the stock available now came from plants propagated by Jannoch's Nurseries in Pasadena. The original plant was moved from Southern California to Miss Louise Boyd's estate in San Rafael in 1938 or 1939.

The writer imported **Grandiflora Alba** from the Yokohama Nurseries in 1929 and sold some plants to Mr. Alonzo Boardman of Atlanta, Georgia, without seeing the flowers. When these plants bloomed, we found that they were another variety and, from later correspondence with Mr. Suzuki of the Yokohama Nurseries, found that they had shipped us **Haku Tsuru** (White Crane) instead of the true **Sodekakushi.** This probably accounts for the confusion in the name of **Grandiflora Alba** in the Southern States.

The variety **Apple Blossom** (now Saluenensis) was imported in 1917. The English name was given it by Mrs. Charles Evans of Piedmont because of the apple blossom-like appearance and fragrance of the flowers.

The **Akebono's,** both variegated and pink, were imported in 1917 for the first time to my knowledge.

An 1891 catalog shows **Otome Shibori** (Baronne de Bleichroeder). I do not know which name has precedence.

Otome Red was imported heavily, accounting for so many large plants of this variety in Central and Northern California. Although its flowers are similar in shape to **Pink Perfection,** it gradually loses its form until it is fit

only for understock.

Flame was found in 1921 amongst a mixed lot of plants which had been imported in 1917. It was either too weak or too small a plant to flower until the later date. It was not propagated too heavily because it was a single to semi-double and also because it was somewhat difficult to propagate at that time. No other variety since imported, with similar description, has been identical, although **Tsuri Kagari** was thought by us to be a **Flame Variegated.**

Biho was not an imported variety, but was the name given the plant which originally grew in Sacramento.

Momijigari was found in the Lewelling collection at San Lorenzo and is supposed to be a seedling.

Camellia **Wabisuke** in white, pink, and red is supposed to be another species. Makino, the botanist, has it under "Camellia **Reticulata,** Lindl. var. **Wabisuke,** Makino"; also under **Campanulata** and **Subuvidua.** These are dwarf-growing small-flowered singles, with small, narrow leaves, very dark and sharp.

A list with a brief form and color description of varieties imported in 1937 and 1938 is as follows:

AKASUMI GURO—double red.

AKASHIGATA—single large rose.

AMANOGAWA — semi-double white.

BENI CHIDORI — semi-double rose with white spots.

BENI KIRIN—deep red peony type.

BENI BOTAN — deep rose peony type.

BOKAN—red and white variegated.

CHIYO NO HANAGATA — light pink semi-double.

CHIYOTA NISHIKI—red and white variegation.

HAKU BOTAN — large white double.

HANA FUKI—deep pink semi-double.

HAGOROMO — semi-double pink flat flower.

HAKURO NICHIKI — large pink with deeper pink spots.

IWANE SHIBORI—variegated double.

KAYAIDORI — semi-double pink with deeper pink stripes.

KIYO KANOKO—peony type variegated.

KIMIGAYO—semi-double white.

KISHIU TSUKASA — double pink regular.

KIYO BOTAN — deep pink with white stripe.

KONRON KOKU—dark red small flower.

KURO TSUBAKI — very dark maroon.

MINE NO YUKI—double white.

MIYO RENJI—single rose pink.

MIYUKI NISHIKI — single variegated.

MOCHIO—bright red semi-double.

MARIU SHIBORI — large variegated.

ONIJI—semi-large variegated.

RASEN ZOME—variegated.

SAIHI—red with white spots.

SEISHI (KIYOSHI)—variegated.

SHIN AKEBONO — single light pink.

SHIUN SHIO KO—light pink semi-double.

SHIRO KAGURA—double white.

SHIRO DAIKAGURA — double white.

SOSHI ARAI — red with white speckling.

SUMIDAGAWA—red variegated.

SODEKAKUSHI—large white.

TAKARA AWASE — variegated white and red.

TERUHI—double red.

TSURI KAGARI — semi-deep red, white spots.

YEDO NISHIKI—variegated.

YOHEI SHIRO—white.

YUKI NO MINE—single white.

Many of the above never recovered from shipment; others were similar to camellias already being grown here under other names (many sports), and most of them were discarded as worthless.

In closing this article, I should like to say that if it has been worth your while to read it through, it may help to fill in a little of the historical background of some varieties.

Catalog of Domoto Bros.—1896

CAMELLIA — A beautiful, flowering, hardy shrub, with glossy green foliage; well adapted to California climate; will bloom in almost any situation in garden; during winter months produces beautiful flowers of solid form and of various shades, white, red and variegated; either single or double. We have the largest collection and stock on the Pacific Coast and can supply plants from six inches to twenty feet in height, all in either pot or box.

Well set plants, budding, $.30 to $1.00
2½ to 4 feet high.....$1.00 to $4.00
Extra large plants quoted on application.

CAMELLIA FRAGRANCE — Similar to former, with flowers smaller in size but abundant; early bloomers in season; perfectly hardy and fast growers. $.40 to $.75 ea.

Catalog of the Yokohama Gardeners' Association—1891

CAMELLIA JAPONICA

We have a great collection of this striking Japanese flowering tree. Wild camellia gives only single flowers; good varieties are only increased by grafting as it is quite difficult or unable to obtain by seedlings. Oily nuts afford an excellent oil for cleaning machines, also prepares valuable toilet-oil which gives particularly rich lustre to hairs; extensively used in hairdressing.

(In the following listing, sizes and prices are omitted.)

I. White variety, entirely free from yellow center (no stamens nor pistils).

SHIRAGIKU — extra large white, 3½-4 inches across.

SHIROKANAKO—with characteristic incurved globular center.

SHIROTOME—white, regular ball.

YAYESHIRATAMA — splendid white ball 3-4 inches across.

YUKIBOTAN—pure white extra.

II. Richest extra fine double flower, striped and freckled varieties, free from yellow center.

HIGURUMA — scarlet 1½-2 inches across.

HITOSUJI—Japanese "One Stripe." Peculiar white stripe on carmine ground on each petal; 2½" across.

HOSHIGURUMA — later carmine scattered with spots.

KIKUTOJI—early carmine, 3 inches across, with white mottles.

OTOMESHIBORI — pink ground with carmine stripes, 3-4" across.

SOMEGAWA—white with carmine stripes.

III. Double large, twined, and curled petals, with stamens irregularly scattered between them.

AREJISHI—splendid carmine, very large, 4 inches across.

DAIKAGURA — clear pink tipped with white, 4-6 inches across. Twined petals.

SHIRODAIKAGURA—white, finely twined.

IV. Common double varieties, freckled and striped.

HIKARUGENJI—red and white, 3-4 inches across.

IWANE — light red tipped with bright crimson and shaded to white, 6 inches across.

KAGIRI—white, 4 inches across.

MIKENJAKU — irregularly tipped white and pink, 4-6 inches across.

MIYAKODORI — largest double white.

MONJISU — bright crimson, very clear white round spots.

SHIRATAMA—white ball.

WAKANOURA—white with bright crimson and pink stripes.

YEZONISHIKI—narrow red stripes on white, 4 inches across.

There are also many other showy flowers, both in single and double, and some with variegated foliage which renders the tree still more attractive.

CAMELLIA SASANQUA—flowers generally Oct.-Dec. Many varieties are known of which choicest:

MINNENOYUKI—early snow-white double, profuse bloomer, giving often 100-150 buds on one plant, 2-3 inches across.

FUKUZUTSUMI — largest, flecked, 3 inches across.

MIKUNIKO — carmine, large stamens, 3-3½ inches across.

ONIGOROMO — pink with white shade.

AZUMANISHIKI—pink with blush-white.

CAMELLIA THEIFERA, widely cultivated plant to produce tea. In this country 3-year seedlings give leaves sufficient to be picked. Sow any time from Oct.-April. In 8 years they become full splendid bushes. 1 lb. of seeds required for 12 sq. ft. Very fragrant flower.

CAMELLIA THEIFERA — (red tea), so named on account of its rose-flower.

CAMELLIA THEIFERA — large leaved, variegated foliage. More than 20 varieties are known, also variegated foliage.

Catalog of the Tokio Nurseries—1896

CAMELLIA

The Camellia won its fame soon after its introduction to the floral world, and many hybrid forms are now appearing from time to time. We have many constantly in stock varying in colours and type, and hope to maintain the original fame which the camellia bestowed upon Japan. The plant grows well if there is plenty moisture and sufficient temperature.

Fixed price, good varieties: $2.30 per 10, $21.00 per 100.

Ordinary varieties: $1.60 per 10, $15.00 per 100.

CAMELLIA JAPONICA

Double

I. White.

SHIRAGIKU — White Chrysanthemum (Purity).

KAGIRI—Only This.

II. Blush.

KUMASAKA—Kumasaka.

USUOTOME—Light pink.

III. Variegated.

DAIKAGURA—Furious Dancing.

HOSHIGURUMA—Starry Vehicle.

KIKUZASARA—Splashed Chrysanthemum.

KIKUTOJI — Madame Chrysanthemum.

SOMEGAWA—Somegawa.

CAMELLIA JAPONICA

Single

GOISHI — White and Black, variegated.

HANAMIGURUMA—Flower Festival, variegated.

IWANE — Rocky Cliff, variegated, best.

KAIANICHIKI — Chinese Brocade, variegated.

OIMATSU — Old Pine, medium variegated.

OKINASASARA — Gray Haired, variegated.

OKINOISHI—Stone in Sea Shore, white.

OKINONAMI — Wave on Shore, variegated.

SHIROKARI—White Goose, white.

KUROTSUBAKI — Black Camellia, deep crimson, or almost black.

TASUKE—Tasuke, white and red.

Uniform price for the preceding varieties:

1-1½ ft. $2.00 per 10; $18.00 per 100.

CAMELLIA SASANQUA

Although not so common as Camellia Japonica, the flower is quite worthy of general interest, as it blooms in November and December, when all its floral sisters have faded and gone. The plant is suitable for lawns, the foliage being thick and lustrous, though smaller than Camellia Japonica.

AZUMANISHIKI—Eastern Brocade, deep crimson.

CHOJIGURUMA — Treasure Car, light pink, profuse center tipped with white.

FUKUZUTSUMI — Treasure Purse, white tipped.

KINNOZAI — Gold Diadem, pink with splashed center.

MAINOSODE — Dancer's Sleeves, blush merging on margin.

MINENOYUKI — Snow-clad Peak, white.

NEGISHIKO — Negishi Rose, deep rose.

NICHIRIN—Sun and Seven Gods, variegated.

TAGOTONOTSUKI — Moon of Tagoto, pure white.

ONIGOROMO — splashed, tipped with red.

GINRIU—white double.

Uniform price for the preceding: $2.50 per 10; $20.00 per 100.

ROOTING CUTTINGS—

(Continued from page 3)

John Laing to be used later as understock. This variety roots readily and quickly produces a sturdy, thick stem and a luxurious root system, making the variety ideal for grafting stock. If you will examine some of the rooted cuttings which I have just potted up in 4-inch pots, and which I am displaying on this table, you will see that I have rooted wood ¼-inch in diameter, which is second-year growth. The variety **Salmon Pink** is another quick-rooting, sturdy-growing type, and is as simple to root as geraniums. Now in contrast to these, at the other end of the scale, you will find such varieties as Alba Plena and Kumasaka which are likely to sit around in your hotbeds from 6 to 18 months before they decide to throw roots. They will form a callous as big as the end of your thumb and still refuse to budge — then finally, they will throw out roots.

Some growers swear that you have to take your cuttings with a sharp knife; others are content to use a snap cutter. I have taken cuttings both ways and have not found that it makes much, if any, difference; they all seem to root anyway. I used to make my basal cut about ¼-inch below a leaf node, leaving two or three leaves on the cutting. But during the past couple of years, I have entirely disregarded the leaf node and, instead, have made a long, slanting cut about 1½ to 2 inches in length, being careful not to feather-edge the end of the cutting, but to deflect the knife blade and cut the end off rather abruptly. Handled in this manner, I seem to lose far fewer cuttings after they are put into the rooting medium. However, I am not prepared to say that this long, slanting basal cut permits the cutting to absorb more water, like the stem of a cut flower, and thus sustain itself until the cut callouses over. At any rate, these cuttings seem to come through in larger numbers and they root all along the slanting cut. So my recent experience has exploded my former theory that it was best to make basal cuts ¼-inch below a leaf node.

Electric Hotbeds

At my home, I have four electric hotbeds, 3 feet in width and 18 feet in length. Each hotbed is covered with three sashes, 3 feet by 6 feet, which are glazed with ribbed, obscure glass ¼-inch thick. This glass is far more expensive than the double weight clear glass; but I believe that the ribs break up the light rays and give some protection to the cuttings when I am not in constant attendance.

Rooting Mediums

Various sections of these hotbeds are filled with different rooting mediums, such as common brown American river sand, Monterey white sand (which is sold commercially for sand blasting), vermiculite, pumice, and oak-leaf mold. I had hoped to be able to draw some rather definite conclusions as to the efficiency of each rooting medium, but after I studied each section of 375 cuttings, I decided that the differences in varieties and their variation in hardness, obviated any scientific conclusions from the tests. Since all of the mediums, with the exception of vermiculite, gave satisfactory results, I decided that they were probably all good, and that perhaps I did not handle the vermiculite correctly or it, too, might

have come up to the recommendations of some of my nurserymen friends.

However, I will make these observations:

The cuttings placed in pumice, made up of granules about the size of rice grains, produced a few very long and fibrous roots. Those long roots really seemed to be out foraging for food.

The cuttings in Monterey white sand, which packs into a very dense, hard mass, formed short and sturdy roots.

Those in plain American river sand formed the usual normal root-ball.

But those in pure oak-leaf mold, which had been screened and packed, came through in largest numbers and made nice, compact root-balls. When taking these from the beds for potting, it was not necessary to disturb the roots as when taking cuttings out of sand. Cuttings rooted in sand have to re-establish themselves in the potting mixture. But not so with cuttings rooted in oak-leaf mold, which already have their roots entwined in a good growing mixture. It is possible that the formation of vitamin B-1 in the decaying leaf mold may have had some influence on the formation of such nice root balls. I should not care to venture a guess on this in the presence of Dr. Walker Wells, who holds a degree in botany. I am merely reporting the mechanics of the situation and telling you what happened without trying too hard to tell you just WHY it happened.

Rooting Hormones

The question is often asked: Do you always use a rooting hormone on your cuttings? The answer is that I do not ALWAYS use hormones. That usually depends upon the varieties I am propagating, how scarce the wood is, how busy I am at the time. With good varieties like Alba Plena and Kumasaka, I will take the time to treat the cuttings with Rootone, Hormodine, Prolifero, or any of the other rooting powders; or I may soak the cuttings overnight in a solution of Indole Butyric acid dissolved in pure grain alcohol and diluted with water. If I take cuttings on Friday evening, so that I can insert them in the sand on Saturday morning, I use a rooting solution. But if I take cuttings early in the week, I am most likely to use a rooting powder. On the other hand, if I am propagating grafting stock of **John Laing, Eureka Variegated, Salmon Pink** and the like, there is no use wasting time applying rooting hormones because these varieties will root anyway.

Rooting Box

If you are an amateur and you just want to root a couple of dozen cuttings, I would advise you to get an ordinary wooden grocery box such as is used in shipping canned goods. If you have such a box with the sides, say 18 inches high, put in about 12 inches of sand, soak it well, insert your cuttings, cover the box with a pane of clear window glass, and place it in a position where the box will get plenty of light but where the sun will never shine directly on the glass. Water the cuttings just enough to keep the sand damp—never sloppy. Leave them alone for 6 to 8 months and then get your hand under one row of cuttings and lift them. They will probably all have roots and be ready for potting. If not, put them back in the sand and wait a couple of months longer and then try again.

You don't need a fancy hotbed with electric bottom heat if you are only playing with a few cuttings; but, if you start propagating on a larger scale, then a nice bottom-heated hotbed is a decided advantage and a pleasure to work with.

Use of Fertilizer

Sometimes the press of other work does not permit me to pot my rooted cuttings as soon as they are ready, and they may start putting out new growth while still in the hotbed. When this happens, I give the beds an occasional watering with a weak

solution of ammonium sulphate so that they will have some readily available nitrogen to sustain growth until I can get around to potting. Normally, growers do not fertilize their cutting beds; but I see no harm in applying a little fertilizer after the cuttings have rooted and are searching for nourishment. I am not even sure that it does any damage to cuttings which have not yet rooted but are merely calloused. I will not say that it does them any good, but I don't think it injures them.

FERTILIZATION—

(Continued from page 5)

ANSWER: I have used Likwid Grow in the ratio 1 to 18 in the bucket with a proportioner that further dilutes the solution 1 to 15. I know that the directions on the bottle recommend 2 teaspoons to a gallon of water. I certainly would not use it any stronger than that and, to be on the safe side, I would use it slightly more diluted.

I like to keep a nice glossy-green color on my camellias and nitrogen seems to do that better than anything else.

QUESTION: How much RAC do you recommend for a plant in a tub?

ANSWER: For a 12-inch tub, for a 2 to 3-foot plant, 1 teaspoon of RAC; for a 24-inch tub, 1 tablespoon. I would go easy on the fertilizer; RAC is powerful.

QUESTION: How about a plant in the ground, 3 feet tall?

ANSWER: I would use about 2 or 3 tablespoons of RAC. But be sure to keep it away from the trunk. Plants in the ground will take more fertilizer than plants in containers. In a container, the roots are concentrated in one solid ball and are more easily injured. Many camellias are killed through over-fertilization.

QUESTION: Are some varieties more easily injured by fertilizer?

ANSWER: Some varieties are susceptible to fertilizer. I had a bed of about five or six hundred one-year-old plants lined out in the ground. I gave them a little bit of fertilizer to help them along. I sprinkled Cotton Seed Meal very lightly. The varieties were FLAME, PURITY, KUMASAKA, FINLANDIA. Every one of the FINLANDIAS died. There was only one thing to attribute it to and that was that FINLANDIA is susceptible. DEBUTANTE is also susceptible to fertilizer and to a soggy condition of the soil. I have had people from Alabama tell me that DEBUTANTE loses its leaves from over-fertilization. POPE PIUS and DAIKAGURA are also known to be susceptible.

QUESTION: Will over-fertilization cause any variegation in the foliage? What turns the leaves white?

ANSWER: Some varieties have a tendency to have white splotches. Even an old plant may turn yellow, and no one knows what causes it. But generally, a uniform yellowing of the leaves means the plant needs fertilizer.

QUESTION: How about Acid Plant-Chem?

ANSWER: I have a friend who is using it and he reports good results.

QUESTION: Is Cotton Seed Meal a slow-acting fertilizer?

ANSWER: No, it isn't slow.

QUESTION: How about fertilizing grafts?

ANSWER: Don't fertilize any one-year grafts. Try not to fertilize them even the second year. Plants in new soil, set out in the garden, really don't need fertilizing until the following year.

QUESTION: How about rooted cuttings?

ANSWER: If they have been in pots a season and are getting a little yellow, you could give them a little fertilizer.

QUESTION: How about seedlings?

ANSWER: I would leave them in a pot the first year and would begin fertilizing the second year.

QUESTION: Do you fertilize RETICULATA?

ANSWER: Yes, very sparingly. RETICULATA cannot use the amount of fertilizer that other species can. One year I fertilized RETICULATA with Fish Emulsion.

QUESTION: How about the availability of fertilizers to plants?

ANSWER: I am pretty sure that the liquid fertilizers are immediately available to the plant. In the case of Likwid Grow, I have used it on plants which were on the yellow side, and within six or seven days, have noticed them coming back green.

A dry fertilizer is slower acting and longer lasting.

But I would try to stick more to organic fertilizers rather than to chemicals.

QUESTION: Do you recommend fertilizing in November?

ANSWER: I have given a little fertilizer in November. I know the Stoeckles (sweepstakes winners at various California shows: Berkeley, Pasadena, and Sacramento) give a little fertilizer in November.

QUESTION: Is over-fertilization likely to kill a camellia?

ANSWER: I know one instance of over-fertilizing, which resulted in the loss of an old plant. A lady in San Francisco had a large camellia, 25 to 30 years old. She happened to hear about fertilizing camellias, so she bought a package and put it all on this big tree. Within a few weeks that plant was done for.

LAKESIDE PARK CAMELLIA PLANTING

Arrangements have been made with the Oakland Park Department for pick-up and delivery service on any camellia plants that members wish to donate to the Lakeside Park Camellia Garden.

Work is now under way in the garden, preparing the beds, and it is hoped that actual planting can begin this month.

Anyone desiring any further information in this regard or anyone wishing to make arrangements for the pick-up of camellia plants, please contact Mr. O. E. Hopfer, Chairman of the planting committee, 1872 Brentwood Road, Oakland 2, (ANdover 1-5737).

PRIZE WINNERS AND DONORS

The door prizes at the October 4, 1948 meeting of the N.C.C.S. consisted of (1) a 30" branched and budded LOTUS, donated by our Past President Harold L. Paige and won by Floyd R. Bourlier, Oakland; (2) a 30" branched and budded JUNE, donated by President D. L. Feathers, and won by Dr. John J. Muzio, D.D.S., San Francisco.

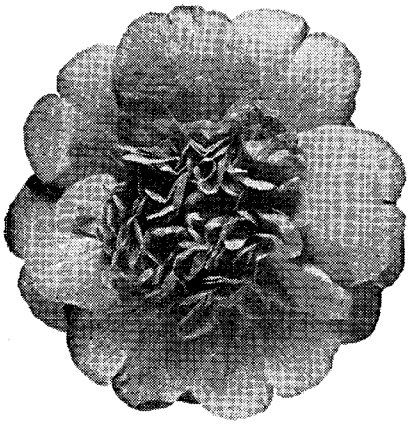
The door prizes at the November 1, 1948 meeting were both donated by J. Vendes Mann, Mgr., Leonard Coates Nursery, Inc., Oakland. The prizes and winners were as follows: (1) LADY CLARE, Harry L. Mohr, Oakland; (2) KUMASAKA, Gene Cooney, Piedmont.

NEW MEMBERS

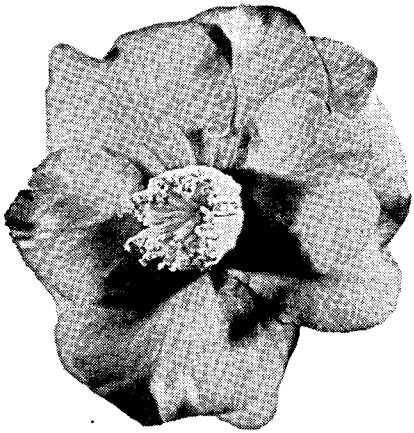
During October and November, 1948 the Northern California Camellia Society elected sixteen new members as follows:

Mrs. Walter Ashe, San Francisco
H. H. Campbell, Red Bluff
Donn R. Court, Lafayette
Mrs. F. B. DeFries, Corning
Edna Black Drumm, Red Bluff
Thos. Balfour Dunn, M.D., Berkeley
Wilson Footer, M.D., Oakland
E. B. Gearhart, San Rafael
Mrs. Ruth Hitchcock, Red Bluff
C. T. LeHew, Alameda
E. H. Padden, M.D., Piedmont
Ralph S. Peer, Los Angeles
Clara J. Rathmell, Oakland
Walter A. Schallock, Red Bluff
John D. Vasquez, Oakland
Paul G. Zacher, Oakland

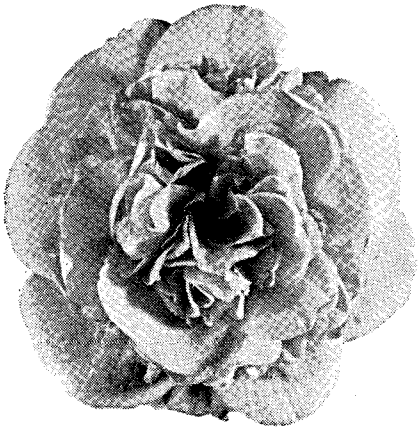
This brings the total membership to 179.



*VEDRINE — Large deep-red flowers; large outer petals with shallow notch; thick grouping of smaller inner petals. Magnolia Garden seedling.



*ADOLPH AUDUSSON—Large semi-double, rich red with darker-colored veins; central cylinder of stamens somewhat urn shaped. Vigorous, compact, and sturdy growth. Introduced into France from the Orient.



*PINK BALL — Soft pink, medium large; large outer petals in three rows; irregular central mass of small petaloids, with a few large, somewhat folded petaloids intermixed.

*SUNSET Magazine, January 1948. Photographs by Herbert V. Mitchell, Oakland.