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THE EDITOR'S MEMO PAD REMEMBER THE 6th OF AUGUST ... JOINT MEETING OF THE SOUTH-ERN CALIFORNIA HORTICULTURAL INSTITUTE AND THE AMERICAN BEGONIA SOCIETY. Elks Club. Sixth St., and Parkview, Los Angeles, Calif., 7:30 Bring your best plant-or plants for p.m. We hope there will be plenty of exhibit. TUBEROUS BEGONIAS IN BLOOM. A wonderful opportunity to show what shadegardening means. If your forte is FERNS then bring ferns. . . . Do not forget that a beautifully grown IMPATIENS is a thing to be proud of. Gloxinias and Fancy Leaved Caladiums ought to be lovely by that time. But-of course-BEGONIAS will be KING AND QUEEN of the evening. This will be one time that the REX will be not only correctly but appropriately named.

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• The American Begonian Society has had some new general information leaflets printed. If you or your BRANCH can use some, write Mrs. Mary Ellen Clark, Chairman Membership. They are free.

EXCERPTS FROM ANOTHER LETTER TO THE EDITOR

 I was interested in Mrs. Knock's suggestion of a correspondence club and would like to have my name submitted.

I enjoy THE BEGONIAN and read every word, even the California meetings. Only wish there were space enough so that we might have a digest of some of the lectures given at those fine Branch meetings.

The photographs in the last several issues have been grand. Iris Nada was exhibited at the Boston Flower Show one year. It was a lovely blossom. I am going to try it indoors this Fall.

(Signed) C.M.S., Wollaston, Mass.

The Primula ... A Prize Story

By GEORGE B. FURNISS, Oakland, Calif.

"A primrose grew by the river brim. A primrose, and nothing more to him." —Wordsworth.

• At a Men's Garden Club meeting one of the members with some hesitation selected a potted *Primula obconica* as a prize. It had a very deep, rich, garnet flower. Its beauty lingered and grew in my thoughts as days passed and that malady of horticultural covetousness intensified. At the next week's meeting I asked this member if he knew how to obtain its seed. He was interested at once, so with pencil and paper I proceeded to sketch and explain the structure of this most unusual flower. It is so exceptional that for the purpose of later discussion let us follow the explanation:—

Should the flower be "pin-eyed" the stigma would rest like a pin head in the mouth of the flower tube. Then, by pulling the petals apart and splitting the tube open, you will see the yellow pollen-bearing anthers, half way down, attached to the side of the tube. But should the flower be a "thrum-eved." then the anthers would nestle in the mouth of the tube. This term is supposed to have originated from the resemblance between these groups of stamens and the tuft-like ends of broken threads which sometimes appear in woven cloth. Upon severing the flower just below its mouth, you will see the stigma like a pin head in the lower end of the tube. The pollen may be easily transferred to the stigma by a fine brush or a tooth-pick.

The following Sunday morning, this member looked up my address, drove some distance, found our house, and me in the back garden. "Here . . . you take it . . . " . . . he had discerned my interest. Such is the friendly spirit among gardeners; and what pleasure and goodwill is conveyed in a simple twig, a cutting, or a plant!

No time was lost in pollinating my benefaction. Seed did not set from any crosses made between its own flowers nor from pollen taken from our own collection of pink *Obconicas*. However, our pink *Obconicas* did set seed with pollen taken from the "garnet." The seedlings thus obtained are now growing and we await the outcome. This "garnet" plant is apparently sterile; somewhat as may happen in the animal kingdom. The Garden Club fellowmember received my report of results with a smile, remarking: "Had I tried, both you and I would have thought that I was to blame." And . . . perhaps so.

THE OBCONICA is an attractive perennial for the garden and particularly for pots as it

thrives in shady locations and is in bloom most of the year. In growing plants from seed the soil should be sandy loam free from acidity such as from peat or leafmold, but after about six months of growth, a slight acidity is no longer harmful but becomes beneficial. Here is a formula used by commercial growers for "potting on" after growth in a two inch pot: ---3 parts heavy soil; 1 part leafmold or peat; $\frac{1}{2}$ part sand; $\frac{1}{2}$ part cow manure. Some individuals contract a rash from touching Obconica leaves and in rare instances, it is said, through the air. A precaution, after handling, is to wash the hands in strong soapy water containing about six drops of washing ammonia.

THE POLYANTHUS PRIMROSE is the most satisfactory of the family for the shady garden. It has long been grown in English and European gardens and because it thrives in so many different climates, it has come into widespread cultivation. It is commended by many bright and attractive colors at a season when vegetation is generally drab and particularly enhanced by its extreme hardiness; also, its endurance of neglect, not fussy, and easy to grow.

However, it is greatly improved now both in sturdy long stems and in color range of large flowers. The flowers are easily pollinated and offer a chance to quickly obtain many different blends. Crossings may be done systematically toward a definite purpose or done at random with ample reward.

BLOOMING PERIOD HERE is from midwinter through spring. Seed may be harvested in June-July and immediately sown. It is safer to sow in pots; then transport to flats ad finally in about three months into beds. Plants should bloom the following spring if kept in continuous growth.

SEPARATE the plants at least every other year is a good practice. Otherwise, the roots become over-crowded. This weakens the plant's vitality and the plant may disappear through root-rot. Some growers hold that this separation should be done at the end of the blooming period. Also, some advocate that the plants should be kept in continuous growth because they are native to regions of summer rains. The writer fails to enjoy the avocation of watering so his beds are allowed to dry off during the summer. Watering is resumed in late September and when growth starts, the separation is then done . . . all with satisfactory results.

(To be continued)

Pest Trouble With Gloxinias and Begonias

By WALTER J. KNECHT, Ventura, Calif.

PART I

• In looking at some of my gloxinias and begonias last summer I felt like the lady who asked the Los Angeles Times' question box: The leaves of one of her pot plants turned yellow, why, the seeds didn't come up, why, and one of her other plants died, why?— Why, Why?

No, since we are not all pathologists or entomologists, the answer often is very difficult and on some pests we can hardly find a mention in books, or horticultural departments.

I am not even blaming the State Nursery Service for not recognizing the pests on samples of leaves which I sent in. If you take a look at the photographs 1 and 2 you probably would also classify the damage as done by thrip, or aphis, but there were none to be found. Nevertheless the plants were dusted with a rotenone dust.

Now comes the excitement. When looking the plants over next day with a six-power lens, something was winking at me from the top of a leaf. I picked the leaf and put it in water in a small glass dish. On scrutinizing the leaf under the microscope, I happened to find a number of very small eel-like worms wiggling in the water. You can spend an hour trying to catch one with an eyedropper and it swims so fast that you can hardly keep it in the field of your microscope. It is apparently colorless and looks and wiggles just like an angleworm. Photo No. 1 shows slight discolorations between the midrib and side ribs of the gloxinia leaf, the infected parts.

It was in Fotsch "Die Begonien," page 170, that I found first reference to the pest; he mentions such discolorations and its cause on Lorraine Begonias by the leaf nematode Aphelenchus olesistus. Since that time I ran into an article printed Nov. 4th, 1933, by the Florists' Exchange & H. T. W., which gives a second name, Aphelenchus fragariae.

Effects and descriptions tally so closely with my observations that I can be reasonably sure that I was confronted with that pest.

It's supposed to attack Begonias, Ferns, Gloxinias, St. Paulias, Strawberries, and a number of other plants.

According to Fotsch and Cornell Univer-

Gloxinia leaf infected with leaf-nematode, note dark and limp sections.



sity, the eels, or nematodes penetrate the stomata, or breathing apparatus of the leaves, and attack the tissue on the inside. When the leaves get wet they emerge and swim to new parts of the leaf or to other plants. Thus by overhead watering they may be spread over a big area. Since they are so small, about $\frac{1}{2}$ mm., they can only be seen with a magifying glass of 6x or more. It is advised to burn affected plants, or to keep them separate from others, to be careful with watering, preferably no overhead watering. As a remedy, warm water treatment for an hour every day is recommended for about a week. Places and materials should be disinfected by sterilization, or with formaldehyde. After treatment, plants should be sprayed with a 5% ammonia solution.

There I was confronted with a nice mess. Burn up everything? The eels were still wiggling in the glass after 24 hours. Does ammonia kill them? I added some household ammonia to some on a slide, they still wiggled. But it happened some Liquid Pordo was handy nearby, which is an ammonia-bluestone compound. Twenty-five years ago it was known as Chestnut mixture and used for fungus and damping off.

Excitement No. 2:

After adding a little bit to the slide with the wiggling eels in it, no sooner it touched them, they straightened out as the saying goes, as stiff as a nail. So I went ahead and sprayed the gloxinias with a weak solution of this copper compound after cleaning up all infected leaves. Also sprayed the pots and benches. This was followed up weekly for several weeks. Some Geneva-double fibrous begonias with decaying leaves and crinkled leaves also were sprayed. I found a sick-looking Begonia gogoensis and located some eels. It was already on its last leg and could not be saved. But, lo and behold, the gloxinias perked up and became healthy, the fibrous begonias dropped their crinkly leaves and came out with fresh. clean-looking growth and look as healthy now after 4 months as they can.

I remember now, that years ago I had bought some Westport Beauty Begonias and that they had showed the same signs of disease, they finally died. Periodically now, the plants suspected of being attacked by this nematode are being sprayed with a solution of copper compound (Liquid Pordo, or Acme Kopper Queen), about a teaspoon to two quarts of water, what I call a "sky-blue solution," and which has not shown any injury on the tenderest plants, while stronger solutions may have a burning effect.

To my knowledge, this is the first time that an easy and cheap treatment for this nematode has been found. I do not know

Gloxinia leaf heavily damaged by mite. Stunted and crinkled young growth.



what effect it will have on Lorraine Begonias which are supposed to be very much subjected to this pest. I would like to invite scientists and gardeners to make further trials and report their findings, maybe there are other remedies not known to me, and in stating my experiences, I hope they will prove helpful against this pest in other localities and under other conditions.

Literature: Karl Albert Fotsch, Die Begonien; Leaf Nematode Disease of Begonias, by D. L. Gill, Dept. of Plant Pathology, Cornell University. In Florists' Exchange & H. T. W., Nov. 4th, 1933. Calif. Agr. Extension Service Circular No. 118, Sept., 1940. Diseases of Flowers and Other Ornamentals, by Ralph E. Smith.



Mrs. Henry Buxton, our Co-editor, sent us the following interesting Garden News and we reprint it through the courtesy of The Boston Sunday Post of August 27th, 1944.

Begonia Growing Hobby Not Limited to Rich

By H. LINWOOD WHITE Instructor in Floriculture, Essex County Agricultural School

• Whoever has a hobby, enjoys it with others. When hobbyists in any given field get together, there's material for enthusiastic conversation without end.

It was such a get-together that the writer attended, when 40 "Begoniaites" convened in Worcester for their fifth annual meeting. A modest, quiet affair it was, for a few hours' duration, but into that brief period the participants packed more queries and bits of experience concerning their hobby than they had been able to do for many a month. It was a mixed group of men and women, a mingling of folks wise in begonia lore, with those not so wise, and those undertaking the culture of these versatile house plants for the first time.

They represented the New England branch of the American Begonia Society, and they came from Vermont, Massachusetts, Rhode Island and Connecticut. They came at the invitation of Philip Malcolm Post, to enjoy one of the largest private collections of begonias in the East. And they were not disappointed.

The plants filled a small leanto greenhouse attached to the rear of the dwelling, a lath house nearly as large, and a commodious front porch. They ranged in size from potted cuttings in two-inch pots to grand specimens four and five feet tall. There were the common sorts so easily grown on window-sills, and the rarer and more particular kind that the fanciers love to tussle with.

The begonias that received the most acclaim were the glorious Rexes with their huge leaves of many patterns in green, silver, and pink. These stood chiefly on a shelf on which they had been grown near the ventilators in the shaded roof. A muslin screen controlled drafts. Rex begonias are not recommended for house culture, but they are rather easily grown in a small greenhouse.

The Post's greenhouse faces West. It is set into the ground and heated from the central heater in the house cellar. There's a cabinet heater at one end for emergencies. This house produced during the Winter all the plants that were seen in the lath house and on the porch. And that is an accommodating thing about begonias. You reduce your fine big specimens of the Summer to cuttings as fall approaches, root them in a sand and peat moss mixture, half and half, sifted through an eight-inch mesh, wet and packed hard in a small box.

Rooting takes from four to six weeks, when the cuttings are dug and potted into two to two and one-half inch pots, according to the size of their root systems. We are putting a moist wad of spagnum moss over the drainhole in small pots, with a pinch of chicksize charcoal on top for drainage.

One's entire collection can be carried over Winter in a relatively small compass, and expanded to Summer proportions again when weather permits. Tuberous-rooted begonias are even more adjustable to small homes, for they reduce to tubers by October, and these are held until February or March before potting for Summer bloom. These last are the most showy of all, and have their devotees. A cloth house suits them best, and this does not have to be elaborate.

Stuart Bastow, of Pawtucket, is past master of the art of growing tuberous begonias. His exhibit at Horticultural Hall, Boston, a few years back, won a gold medal. Now he is asking where to procure superior Rex seed, while Mr. Post is toying with the idea of a larger greenhouse where he can grow the tuberous ones.

Now all this may seem like a rich man's hobby, unless we go into the back country of New England where villagers and farming folks are found growing clean, healthy, robust begonias far more easily than many people in town and city can grow them. The answer: plenty of woods earth and an abundance of fresh, moist air.

Here is a soil formula that grows fine begonias, other factors being favorable. Mix together three parts oak leaf mold, two parts rich compost, two parts sharp sand, two parts well-rotted cow manure, one part peat moss, one part chick-size charcoal, and three-quarters of a cupful of 5-8-7 commercial fertilizer to a bushel of the mixture. Repot as soon as a network of roots forms over the ball of earth. To delay stunts the plant.

Increase the amount of broken pieces of pottery or broken charcoal at each shift to a larger pot. The usual shifting routine is from a two and one-half to a four, four to six, and six to nine or 10-inch pot. A tub or wooden pail is lighter than a clay pot in the upper sizes.

Collecting begonias is not a rich man's hobby. It requires too much personal interest and supervision. Several collectors, however, who have expanded beyond their window ledges into small glass houses, are finding the hobby quite self-supporting from the sale of surplus stock to other collectors. A very few have attained commercial proportions. Nevertheless, there is a lot of plain Yankee swapping going on between begoniaites of "slips" and small plants.

Begonia collecting is a fascinating hobby. Ten or a dozen "easy-doers" give one a fair start. Fifty would fill the windows in most houses; a small greenhouse 200. There are about 5,000 sorts to pick from. No one has accumulated a full-size collection yet.

The American Begonia Society, with its monthly publication, THE BEGONIAN, and its cultural leaflets, is most helpful to the collectors. A membership of over 2,000, mainly Californian, but with a scattered representation across the country, supports the society, its publication and other activities.



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B. x GILSONI

By ALICE M. CLARK, San Diego, Calif.

• This month we depict one of the outstanding personalities of the begonia world, B. X Gilsoni. According to Eva Gray's Begonia booklet, it was named for Gilson, a colored gardener in the employ of Mrs. Livingston of New York. (I wonder if the first begonia Round Robin was the source of this information, as I have not found it any other place!)

Mrs. Krauss, says, in an article in the April, 1944. Gardener's Chronicle. that Gilsoni is a hybrid of unknown parentage, developed in 1880. That makes it fairly old for an American hybrid. There was reference to it in The American Garden, of 1888 and The American Florist of 1889. Index Kewensis lists it in Supplement III for 1901-1905. It is in Gause and Bissell Catalogue for 1892. It is not mentioned in Die Begonien but Chevalier has an illustration and description which, when translated, was found to have been taken from Gardener's Chronicle for 1935. Mrs. Buxton treats it well in her hook

It seems surprising that Gilsoni's parentage has not been authenticated in the space of sixty-five years. Mrs. Gray says it can be grown from leaf cuttings but another early authority in San Diego, Mrs. Waite, thought it was rare because it was difficult to start from cuttings. The truth of the matter is that there are few slips to be had as, while it has several main stalks, it seldom branches.

A month ago I put my Gilsoni, which is two feet high, in the ground to see if it would grow taller, but it is so much prettier than the smaller one I was going to sketch that I transferred it back into a pot for this painting. My plant has five stalks but I have only shown two, which are very close together and a small one just starting at the base.

Mrs. Krauss says: "The stout stems and stubby side branches and general habit of growth are suggestive of an older French hybrid, B. Paul Bruant, but it lacks the adventitious leaves on the stems, which characteristic was inherited from B. phyllomaniaca. Both begonias are handsome winter-blooming subjects." The general opinion is that there



Holden Road

Paxton, Mass.

is probably some of the blood of the "crazyleaf" species in Gilsoni, though the leaves and flowers are so different.

My sketch does not show the white stitches threaded up and down the green stalks and the persistent brown bracts are hidden by the leaves, which rise in clusters directly from the nodes of the main stem. When young the stipules are very transparent, half an inch wide to an inch long, tapering to a point. New pedicels are red at the base and fuzzy with white hairs at all stages of growth. The largest leaf in the drawing is a little over six inches and the leaf itself is almost as long.

The foliage of Gilsoni is most distinctive. An amateur has no trouble remembering its triangular appearance, due to being half folded instead of flat. There are many lobes, much veined and beautifully fringed on the toothed edges with white hairs. The firm surface is a shining bright green, with lighter veins and center, fading out to a cream color at the margin, which is tipped with red. The back is a paler green, pink-tinted and covered with white hairs, particularly on the elevated ribs. When in full leaf, later in the year, this is indeed a handsome plant.

The inflorescence comes near the top at the junction of leaf and stalk. The peduncles are as long as the leaf stems. They are light green with some red shadings but no The flowers unfold from two greenhairs ish-pink bracts on two forked branches that continue to divide until the cluster is five to six inches across, erect but graceful. The two larger petals of the male flowers show rouged cheeks of bright pink on the outside, near the stem. When open, between these and two smaller, narrow petals there is an unusual puff of tiny folded shell-pink petaloids that make the whole blossom look like a miniature tuberous begonia. As far as I know it is the only double flower, aside from the semperflorens, on a fibrous begonia. The female bloom has three to five petals from a somewhat greenish ovary with pink wings. Enlarged drawings of both flowers may be seen at the lower right.

I have found that Gilsoni likes sun at a time of year that is naturally cool and responds to warmth by blooming more freely. The happy combination of beautiful, perky, fluted leaves and soft pink, double flowers makes it a plant to cherish.

• From Long Beach, Calif., "I do so much enjoy THE BEGONIAN each month. I have learned many things from it."—M.H.P.

Page 108





Photo by Henry Verby, Hollywood. Avocado tree in back-yard showing large bed of very young tuberous begonias just about to break into first bloom. They are getting well established so that they will bloom until about November.

On right, young rosebud type tuberous begonia showing sturdy growth. Notice part of the old wagon-wheel depicting sturdiness of another kind.

Tuberous Begonias In Hollywood

By MARIA WILKES, Los Angeles, Calif.

• Right in the Studio City of Hollywood, there is a regular city lot, no wider, no deeper than the others, but what a difference in the interests that are concentrated in that particular home and garden. As a matter of fact, the front of the house and garden look not dissimilar to the neighboring homes.

As soon as one nears the rear of the driveway one is struck by the delightful coolness and inviting shade of pergola, trees, lots of greenery and much color. On the side of the garage wall facing the south of the garden, one finds a series of shelves holding a fascinat-(Continued on Page 112)





Tuberous Begonias

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Tuberous Begonias in Hollywood (Continued from Page 110)

ing collection of rocks containing various minerals, some plant fossils and some skeletons.

One may sit down under the heavily draped pergola and enjoy a tete-a-tete (or a meal) the while being refreshed by the quiet serenity of the place. Soon one is inveigled into the back garden, just a little place, but there is quite a nice and productive Victory garden on the way to the little cloth house where in well built redwood benches Mr. Flynn grows his particularly fine tuberous begonias and other special flowering plants which need special care. Mr. Flynn likes to keep a chart on each of these plants, meticulously entering thereon all the experiments he may be carrying forward or the special feeding programs he may be trying with the response of the plants to the various treatments.

It would seem that a working man would have enough with all this fine work to occupy his extra time, but Mr. Flynn has another engrossing hobby. He and his family love to roam the desert. From the desert of Death Valley he brought home, about eight years ago, a real relic of pioneer days. A great wooden cartwheel, part of which may be seen as a background to the potted tuberous begonia in this issue. This wheel was found with the remnants of the old cross-country wagon which evidently got mired in the sand and was left. The three other wheels were broken but this one, tho' quite old, is still intact, thanks to the strong materials and sturdy workmanship. We wonder what stories it could tell. Mr. Flynn is one of 200 Lapidarists, members of what is considered a leading group of its kind in the United States. This group collectively, owns the finest collections of stones and fossils in the world. Mr. Flynn has just exhibited a case of 124 different precious stones of his own collecting, cutting and polishing. His specialty is the collection of plant fossils comprising many woods, including the Cycads and Gingkos as well as others. He has collected specimens as far afield as Greenland and particularly in the Black Hills of South Dakota. of which state he is a native.

In his garden, Mr. Flynn has combined these two hobbies in a very interesting manner. There is never a chance of a dull mo-

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Page 112

THE BEGONIAN

Organizing A New "Round Robin" on Begonias

By FRANCES DOWNING, Duncanville, Ala.

• The American Begonia Society has a very definite object in mind in the organization of these correspondence clubs throughout the country, maybe, NOW, to extend across the waters wherever we may have Begonia friends. Simply put: We wish to learn all we can about begonias and all begonias.

Through the letters of the members, cultural methods, propagation, behaviour of plants in different climates, new varieties, best varieties, hybridizing, sources and so—ad infinitum, can be discussed informally, with benefit to all.

The clubs will include a Rex Begonia Robin; Tuberous Begonia Robin; and a Fibrous Begonia Robin. There will even be a Semperflorens Begonia Robin, if there are enough interested parties asking for one. There will be two types of clubs. One for

ment if one is a nature lover, for there are exhibits everywhere.

Besides growing a cloth-house full of tuberous begonias he finds room for a large number of them under a fine avocado tree which planting is further protected from the afternoon sun by a nice palm and some small This planting is done in a fairly trees. crowded manner so as to get a maximum of color, therefore he places little sticks interlaced with fine string to keep the plants as straight and safe as possible. These little stakes would also be a safeguard from dogs and cats as well as a means of labelling any special plant. They are soon covered by the growing plants which are thus helped to stay upright.

This bed is made over each year with a deep layer of richly prepared compost therefore the tree is doing nicely and so do the fine plants of tuberous begonias.

The Flynns like to enjoy the company of their friends in the seclusion of their interesting garden. Their life is never humdrum since it is always packed with history, romance and adventure which they go out to seek from the great outdoors then bring it to their home to fill their quiet hours with the wonder of it all.

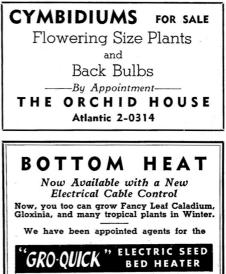


beginners and one for advanced members. The beginners club should be directed by an advanced member.

Those who wish to join the club may write me, Mrs. Frances Downing, Duncanville, Alabama. Please state which group is preferred, and whether an advanced or beginner Begonian.

There are no club dues, (all naturally should be members of The American Begonia Society) only the postage on the Robin letters which averages nine to twelve cents every six weeks to three months. Perhaps those who know fuchsias, ferns, impatiens, shaderock plants trailing plants or other shade plants would like to belong to correspondence Robins dealing with these subjects. If so, I will be glad to hear from any of these people.

I am wishing for many happy and successful Begonia Society Correspondence Clubs while inviting your letters.



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Chlorosis as Effected by Environment-Disease

By DR. W. C. DRUMMOND, Hollywood, Calif.

PART II

 Chlorosis, as previously stated, is absence of chlorophyll in the leaf-see page 752, Gen. Chemistry, Richardson 1927. Also see Text Book of Physiology, Maximov, page 22, 1930. Both contain good information. The causes of chlorosis are many, they may be either nutritional, either too much or too little, (Nutritional Deficiences will be reviewed under deficiencies) or they may be environmental, such as temperature, humidity, soil, water, light, or disease. There may be one, two or more of these causes working at the same time. Pyrone, in his book, Maintenance of Shade and Ornamental Trees, 1941, page 168, sums it up this way-"Chlorotic leaves may result from fungus, virus, insect attacks, low temperature, toxic materials in the air or soil; excessive moisture, surpluses of soil minerals, or a lack of non-availability of nutrients." In this chapter we shall review environmental causes and diseases.

Water Effecting Chlorosis

Water being the most essential element to plant growth, but as here described, pertains to its effect on chlorosis only. For the use of water in the culture of plants, I refer you to the very fine series of articles in THE BEGONIAN by Rudolph Ziesenhenne, page 36 of March, page 55 of April, and page 68 of May, 1942.

Water, either too much or too little, may cause chlorosis, the following instances are only a few. The browning of the leaf margins of the Rex begonia is a form of chlorosis. When the browning is over most of the plant leaves, it may be due to over concentration of mineral salts in the leaf from too much absorbed fertilizer.

When there is a lack of humidity in the air an excessive evaporation of the water from the leaf takes place, causing too great a concentration of mineral salts in the leaf which results in marginal leaf burning. When wa-

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ter used in overhead irrigation shows a white residue on the leaf, the leaves absorb these minerals, again causing a leaf burn. In using water of great salinity the water should be applied to the pot only, or to the soil only, keeping the leaf dry. To create humidity wet the walks ,etc. The browning may also be caused by too much or too little water to the roots. The Tibouchina (Pleroma Splendens) (Princess flower) tip burns badly from a lack of water. This plant needs a rich soil and plenty water. The Avocado leaves tip burn badly from too high a water table, a hard pan, or a lack of drainage. Hibiscus drop their leaves and become chlorotic from too much water to the roots. especially with too low a root temperature.

Many plants burn from too much or too little water to the roots. Too much water in the soil drives the air out of the soil. Plants grown under these conditions soon become chlorosed and lose their leaves. Farmers cultivate the soil to admit air to the roots and at the same time promote growth of certain aerobic bacteria. Aerobes are bacteria which grow in the air (free oxygen). The cultivation of the soil also promotes chemical changes. In the absence of air we promote the growth of anaerobic bacteria, anaerobes are bacteria which cannot grow in free oxygen. The anaerobes sometimes attack plant parts and disintegrate them. Certain deep rooted plants, such as corn will tolerate their roots submerged in water for a reasonable time without dying, whereas shallow rooted plants with their roots normally in the surface soil, which contains much air, will die when kept too wet. In other words, all plants do not behave alike in this respect. It is normally the crown portion of the plant which cannot stand to be submerged in water. The older brown roots once accustomed to growing in moist air disintegrate quickly when kept too wet. It is here the anaerobic This may bacteria comes into the picture. be one reason why old begonias transplant badly, while the young begonias transplant with reasonable success. (Old begonias should not be planted too deeply which would keep these old roots continuously wet.) New roots. require little oxygen and can take up the oxygen they need from the water. Read Dr. Wm. F. Gericke's book, pages 99-100-101, Soilless Gardening. Also, page 27, Soilless Growth of Plants, by Ellis & Swaney.

(To be continued)

Branch News...

San Francisco Branch:

The May meeting was the largest in the history of the Club. Dr. Mervin H. Hirschfeld was the drawing card and credit may also be given to the recent publicity given to the TUBEROUS BEGONIA. This was Dr. Hirschfeld's subject and he gave a wonderful talk on how he grows his prize-winning plants illustrated in kodachrome. He takes one right through an entire season with his colored slides showing the actual planting of the seeds; the mixing of the soils; the first appearance of the seedlings, pricking out of the plants and transplanting. The proper depth and spacing, the second transplanting followed by the final planting in beds and in pots. The bedding and potting mixture used is two-thirds leafmold with balance in manure and light loam with a light sprinkling of bone meal. He said that when the buds formed on the plants was time enough to start small amounts of extra fish-meal. cottonseed meal or commercial fertilizer around the edge of the watered pot. About twice a season is enough.

Dr. Hirschfeld covered the making of cuttings of the tubers and side cuttings from the plants, also division from the tubers. Now is the time to make cuttings placed in leafmold and clean river sand which will root in five or six weeks. They may then be planted in beds or in pots. Tuberous begonias do not want complete shade, they must have some light.

He showed the plants in full bloom in all their gorgeous colors. Hybridizing was discussed and illustrated pointing out the difference between male and female flowers and the method of making crosses. The process of ripening and storage of tubers was shown and thus closed one of the most informative talks which was greatly appreciated by all.

The group was further rewarded by door prizes of choice tubers donated by Dr. Hirschfeld, tubers of begonias and dahlias by Glenn Mack and seventy-five packets of B. semperflorens seed from Dr. W. C. Drummond of Los Angeles. Calif.

Glendale Branch:

The speaker of the April meeting was John Parker from the Hollywood Branch. His topic was propagation and hybridization of begonias. As usual, he covered his subject thoroughly and answered many questions.

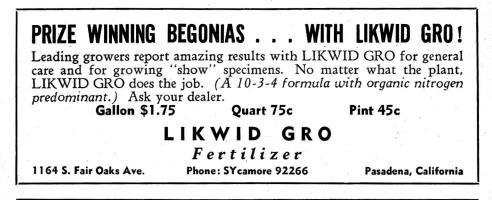
For the May gathering Mr. "Bill" Johnson of Destruxol will show pictures and speak on soil correction.

Attendance has been good during the Winter but now, with the nicer weather, full houses are expected. Has anyone failed to see President Elect Harold Hart's front yard full of pansies?





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Long Beach Parent Chapter:

Dr. M. B. Dunkle was the speaker for the April meeting. He showed slides of Californian scenery and wild flowers from the northern border to the southern boundary and thence to the Channel Islands. It was most informative as well as entertaining, particularly as we have not, and will not yet be able to go and see them for ourselves. The hobby of photography in conjunction with the love of flowers is certainly a means of giving many people much pleasure.

The May meeting will be entertained by Mrs. Ruby Liedler whose subject "Begonias Up and Down the Coast" will be reported later.

California Heights Branch:

The branch was entertained in the home of Mr. and Mrs. Chalmers Bowers. Mrs. Crawford of North Long Beach Branch spoke most interestingly on the culture of TUB-EROUS BEGONIAS. It was a treat to hear all the steps to be followed from the seedlings and cuttings through fertilizing and general information of importance.

The May meeting will be reported later. The June meeting will be held at the home of Mr. and Mrs. A. G. Randall, on June 8th.

Inglewood Branch:

The May meeting of this branch of the American Begonia Society was very greatly entertained and instructed by Mr. Merrill Thompson who showed sound pictures covering the function of the plant, the root growth of plants, and the habit and growth of the aphid. These pictures, as well as Mr. Thompson's talk should be a "must" on the program of every garden minded group. Among other things, they prove that the ant is not responsible for the spreading of aphids in the garden. The plant sale table was laden with begonias of many types and the door prize was a very fine specimen of B. Mrs. Scripps, donated by Mrs. Clarissa Mrs. Crandall donated a beautiful Harris. Epithyllum in full bloom. Due to the lateness of the hour the business meeting was postponed with the exception of a letter from our program chairman resigning because he is now in the Army. Our best wishes for a speedy return to civilian life go to Mr. Dressell and during his absence, Mr. Leroy Frost has consented to take over the task of providing entertainment for the group.

The June meeting of this group will be held at the Inglewood Woman's Club on June 14th at 8 p. m. and all the plants for the plant sale and auction at this meeting will be donated by the members of the society. Everyone who reads THE BEGONIAN is cordially invited.

San Diego Branch

Two very interesting subjects were covered at the April meeting (says Mrs. Clarence E. Moore, publicity ch.), with E. D. Brooks, president, presiding. Mrs. J. A. Hegel, plant chairman, spoke of ferns and their culture with many kinds discussed with the fronds of the large varieties and plants of smaller varieties to add interest. Her fernery has a waterfall, keeping the air moist and many seeds germinate and grow under those conditions. Ferns like the lath to be closer and lower than begonias but there must be good ventilation. One side of her fernery opens on to the begonia section giving the circulation of air needed. The familiar soil mixtures-one half leaf mold and the rest made up of peet moss, old fertilizer and sand, with B1 one week, followed by a good fertilizer or the water drawn from a keg of fertilizer the following week will keep ferns in good condition.

A. P. Carlton of the Reynard Way Camellia gardens demonstrated his talk on GRAFTING CAMELLIAS with growing plants. Taking a sturdy but inferior blossoming one he cut the top off about three inches from the bottom and smoothed off the top, cutting a wedge at one side. Taking a scion of a better but less sturdy plant, having an eye and one or two leaves, he cut it into a long tapering wedge leaving the bark on one side and matching the wedge cut on base. He put these in place matching up the bark of both sections. Twine (or grafting tape) was wrapped around to hold in place and covered with a glass jar. Don't water for at least three weeks or until the graft catches, he ad-Leave glass jar until a good monished. callous has formed and the plant shows it is starting to grow, then tip jar on its side over plant for a week and remove it on cloudy and cool days, it is less shocking to the plant.

In the bark graft, the bark is split back and loosened with a flattened nail or something similar with a long tapering wedge in the base. Match the wedge in the scion, cutting one side only and leaving the bark to the very point of the wedge. Slip it into place and draw the loosened bark over it and wrap, following the same plan as with first graft. If you match the bark, tie up carefully and cover with a glass jar and put in sheltered place, you should have success. The best time to graft is in February or March, while dormant.

• Please make all checks or M. O.'s payable to The American Begonia Society, whether for Bulletins, dues or advertising . . . but see front page for right agent and address to avoid much loss of time, effort and postage.

Tuberous Begonias

By EDWARD B. FLYNN, Hollywood, Calif. • When Spring comes to a lover of the tuberous begonias, it is thrilling to see how each variety starts sprouting. As soon as the little shoots are noticed, the tubers should be placed in flats filled with a mixture of equal parts of well rotted oak leaves, peat moss and sandy soil. I like to place the tuber about three quarters of an inch below the surface because the tubers actually send out roots from all over the top, sides and base of the tuber. They must be kept moist at all times, preferably in a shady spot that is not drafty. When the leaves are about three inches high. I transplant them to a permanent location in the open ground or in pots.

The soil mixture I make is a liberal portion of composted oak leaves into some sandy soil with a light sprinkling of bone meal. I have tried many kinds of plant food but find cottonseed or fish meal the best-if used sparingly. I mix about one ounce of either food thoroughly with the soil mixture that will be three inches below and around the tuber. Too heavy a feeding will cause the leaves to discolor and incurl. In some cases the bacteria crowd the base of the plant stalk and destroy it in a few hours. While plants are small one may lend interest to the planting by placing colored rocks and burled, gnarled wood among them. They lend the plants some support and an atmosphere of naturalness. Having a tree which cools the air and allows sunlight to filter through it is easy for us to have fine tuberous begonias from July through November. There is still time to plant tubers until about the middle of June, so do not delay. The later the planting, the smaller the flowers will be.

The tuberous begonia gives us some of the greatest beauty in nature.

Hollywood Branch:

For the fourth time, Mr. Wm. Ross came to talk to this group. He spoke on the propagation of Rex begonias, demonstrating also how to make cuttings.

Everyone gained much information and pleasure from him. His is a down to earth manner of speaking and each one with a question is given a good answer. He does not mind being questioned at any time, therefore he leaves little chance of doubts and misunderstandings.

Bellflower Branch:

Our next meeting of the Bellflower Branch will be held at the home of Mrs. Anna Haller, 949 E. Artesia Blvd., at 7:30 p.m., on Tuesday, June 5th. Members and their friends are most welcome.

Past Presidents Association of The American Begonia Society

• By the organization of this limited and very special society every member of the American Begonia Society should realize again and again how our leading officers feel about us.

Those of us who were privileged in hearing about their objectives feel that they deserve a great deal of commendation for their altruistic actions.

One of their reasons for being is to be able to present a suitable cup at the Annual Meeting for the BEST ACHIEVEMENT through the year. Do not be surprised then, when you see a group of Past Presidents swoop down on your Branch, their mission is to be of extra help and to further the purposes of the American Begonia Society in every manner that they may while cooperating to the utmost with the Society which they led for not less than three years. One year as Presidentelect, one as President, and one as Past Presi-That is not counting the time given dent. in valuable service prior to being elected to office. Congratulations and GOOD LUCK and may your numbers grow in usefulness as well as in the joys and happiness of doing for others.

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OAKHURST GARDENS 512 W. Foothill Blvd. Arcadia, California

CONDENSED MINUTES NATIONAL BOARD, A.B.S. Meeting Held April 23, 1945, Clifton's Cafeteria, Los Angeles, Calif. Meeting called to order at 7:30 with Pres. Nelson

presiding. Board members present: Messrs. Nelson, Hart, Hawkins, Lawrence, Mmes. Wilkes, Clark, Hartwell.

Representative Directors: Mr. Harker, Mr. Barber, Capt. Deere, Mr. Minehart, Mrs. Dewar. Introduction of guests. Minutes March meeting read and approved

Reports of Editor and Business Manager, Treasurer, and Membership Secretary read, and on moapproved as read and made part of the tion minutes

Speakers' Bureau and Public Relations Director Mr. Lawrence: Had a meeting at Santa Monica to organize a branch, but I have not had a chance to talk with Mrs. Gongware as yet to know how far it went. More at next meeting. Have sent out about 80 letters relative to revising the bulletins but so far most of the replies have stated that tuberous begonias could not be grown in their locations.

Will also have more to report at the next meeting. So far as the Speakers Bureau is concerned I have sent letters to the branches near-by asking for a new list of their speakers but have had no

Representative Directors—Mr. Hawkins for Hollywood; Mr. Minehart for Inglewood; Mr. Harkker for Parent Branch Long Beach; Capt. Deere for San Gabriel Valley; Mrs. Dewar for Glendale; Mr. Barber for Whittier. All reported interest keeping up and progress in various branch matters. Good speakers. See Begonian for detailed reports.

UNFINISHED BUSINESS

UNFINISHED BUSINESS Membership Fees Chairman reported she had sent to the San Francisco Branch 1000 leaflets; stated her supply was getting short and urged that a new supply be printed. On motion, it was agreed to have 10,000 leaflets printed, after certain changes were made, and that Mr. Lawrence and Mrs. Wilkes work jointly on the text and set-up for these leaflets. SO ORDERED. Editor instructed to place in each issue of the Begonian a paragraph asking that "all checks be made payable to The American Begonia Society." Capt. Deere reported he had picked up the cuts

Capt. Deere reported he had picked up the cuts belonging to the American Begonia Society; was separating them and would make a catalogue if the Society so desired. Also suggested that a cabinet be purchased to take care of these cuts and thus making them easily available. Pres. Nelson appointed Capt. a Committee of one to look into the wratter of purchasing a cabinet, cataloguing the cuts, etc., and to report at the next meeting. A vote of thanks was given Capt. Deere for the work he had done and is still doing for the

More the flat doile and is shift doing for the Society. Membership Secretary instructed to turn over to Capt. Deere the old correspondence files, he to go through this and make such disposition as the Board might direct, reserving all papers less than two years old.

Mrs. Wilkes reported that the Southern California Horticultural Society had extended an invitation to the American Begonia Society to conduct their August meeting, the A. B. S. to have charge of



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• Tuberous begonia tubers are reported to be very scarce this year, and those that are obtainable are considerably higher in price than last year. Why not grow your own-from cuttings? It is not too late to start them, if no time is lost. For complete cultural directions consult the Tuberous Begonia Bulletin issued by the Society, obtainable from your Branch secretary, or from Mrs. Ellen Clark, 16181/2 W. 52nd Street, Los Angeles 37, California.

Q. I have been having a terrible time with a small black fly or gnat, that seems to be close to the soil. What can you suggest to get rid of them?

From Mrs. H. H. R., New Hartford, N. Y.

A. These flies are supposed to be caused by a sour soil. It can be corrected by sprinkling powdered charcoal on the soil surface or by mixing charcoal with the potting soil. I also mix some tobacco in my potting soil to kill all-bugs. A nicotine spray will kill all the flies with which it comes in contact. A solution of Black Leaf 40 may be poured on the soil and will kill those in the soil — but they will come back unless the sour condition is corrected.

Mrs. Walter Knecht, Past-President of the Theodosia Burr Shepherd (Ventura) branch, started her term of office with a membership drive. The membership was divided into two groups, the group securing the most new members to be the guests of the losing group at a pot-luck dinner.

the program furnishing the speaker, etc., but the Horticultural Society to publicize the meeting, the time, the place, and the plans. Discussion followed and it was felt this was indeed a most gracious gesture on the part of the Horticultural Society and the Begonia Society sholud readily avail itself of the opportunity. Pres. Nelson appointed Mr. Lawrence as Chairman, he to go ahead with whatever plans and arrangements necessary. whatever plans and arrangements necessary. Editor to have an article in the Begonian with more details. WATCH YOUR BEGONIAN FOR more details. INFORMATION.

Past Presidents Neels, Baily, and Hall came in at this time and told of their plan to organize a Past Presidents Association of the A.B.S., the purpose of which would be to assist the National Board and the Branches in whatever capacity offered-visit the branches, promote good will, assist in formulating rules for flower shows; and working with the Board in every way possible; they stated they would, with the permission of the Board, soon submit copy of Constitu-tion and By-Laws and would like a "go-ahead" signal from the Board. This was enthusiastically given and the Past Presidents thanked for their fine spirit.

thanked for their fine spint. The May meeting of the Board will be held in the Directors Room, Retail Merchants Credit Asso-ciation, 417 S. Hill St., Los Angeles, at the invita-tion of Mr. Baily. Respectfully submitted, GONDA HARTWELL, Corres. Sec.

Meeting Dates and Speakers

It would be much appreciated if the Secretaries of the Branches would send meeting data to reach the Editor NOT LATER THAN THE TENTH OF THE MONTH.

The June American Begonia Society Board Meeting will take place in the Los Angeles Public Library, Model Room, Grand Street Entrance, Monday, June 25th, at 7:30 p.m.

WHITTIER BRANCH

Monday, June 4th, 7:30 p.m. Jonathan Bailey School, Room 19 Comstock-Ave. & Hadley Street, Whittier, Calif. Mrs. G. E. Polentz, Sec.-Treas. 1000 West Broadway, Whittier, Calif.

BELLFLOWER BRANCH

Tuesday, June 5th, 7:30 p.m. Home of Mrs. Anna Haller, 949 E. Artesia Blvd. Bellflower, Calif. Mrs. Ardel Radle, Sec.-Treas. 920 Flower St., Bellflower, Calif.

THEODOSIA BURR SHEPHERD BRANCH

Tuesday, June 5th, 7:30 p.m. American Legion Hall North Carolina St., Ventura, Calif. Mrs. Wm. Smith, Sec.-Treas. Ventura, Calif.

SAN FRANCISCO BRANCH

Wednesday, June 6th, 7:45 p.m. Social Hall, Calvary Methodist Church c/o 19th and Judah St., San Francisco, Calif. Mrs. Theresa Ferrero, Secretary 2183 - 31st Ave., San Francisco, Calif.

ORANGE COUNTY BRANCH

Thursday, June 7th College Hall, Santa Ana J. C. 917 N. Maine St. Santa Ana, Calif. Laurance Archibald, Secretary 1216 W. Chapman, Orange, Calif.

CALIFORNIA HEIGHTS BRANCH

Friday, June. 8th, 7:30 p.m. Home of A. G. Randall 3638 Cerritos St., Long Beach Mrs. Merle H. Penrose, Sec.-Treas. 4142 Walnut Ave., Long Beach 7, Calif.

NORTH LONG BEACH BRANCH

Monday, June 11th, 7:30 p.m. 42 East Market St., North Long Beach, Calif. Mrs. Ruby W. Liedler, Secretary 169 E. Artesia, Bellflower, Calif.

PASADENA BRANCH

Tuesday, June 12th, 6:30 p.m.

Pasadena Library Lester F. Harrell, Sec.-Treas. 668 Bellefontaine St., Pasadena, Calif.

RIVERSIDE BRANCH

Tuesday, June 12th, 7:30 p.m. Mrs. Curt Smith, Sec.-Treas. 3784 Central Ave., Riverside, Calif.

INGLEWOOD BRANCH

Thursday, June 14th, 8 p.m. Woman's Club of Inglewood 325 N. Hillcrest, Inglewood, Calif. Mrs. Fred Witman, Secretary 3856 W. 27th St.,Los Angeles 16, Calif.

HOLLYWOOD BRANCH

Thursday, June14th, 7:30 p.m. Plummer Park, 7377 Santa Monica Blvd. Mrs. Helen Scherer, Secretary 3222 Larissa Dr., Los Angeles 26, Calif. Speaker: Mr. Merrill Thompson Subject: Sound Films on Plant Growth & Function

EAST BAY BRANCH

Sunday, June 17th, 2:30 p.m. Mrs. Ruth Utter, Secretary 155 Ardmore Rd., Berkeley 8, Calif.

EVA KENWORTHY GRAY BRANCH

Monday, June 18th Tillie Genter, Sec.-Treas. 7356 Eads St., La Jolla, Calif.

LONG BEACH PARENT CHAPTER

Wednesday, June 20th, 7:30 p.m. Colonial Hall, Tenth & Locust Ave. Mary Hotaling, Sec.-Treas. 324A Temple Ave., Long Beach 4, Calif.

PHILOBEGONIA CLUB BRANCH

Irregular Meetings Mrs. Albert H. Gere, Treasurer 362 Brookway, Merion, Pa.

ALFRED D. ROBINSON BRANCH

Friday, June 22nd, 10:30 a.m. Hall, Point Loma Community Church Udal Street at Poinsettia Dr., San Diego, Calif. Mrs. Merrel H. Taylor, Secretary. 2838 Chatsworth Blvd., San Diego, Calif.

SAN GABRIEL VALLEY BRANCH

Friday, June 22nd, 8:00 p.m. American Legion Hall 720 N. First Ave., Arcadia, Calif. Mrs. W. H. Corbett, Secretary 2017 S. Fourth Sreet, Alhambra, Calif.

SAN DIEGO BRANCH

Monday, June 25th, 7:30 p.m. Hard of Hearing Hall 3843 Herbert Ave., San Diego, Calif. Mrs. George S. Breidford, Sec.-Treas. 1146 Oliver Ave., Pacific Beach, Calif.

MARGARET GRUENBAUM BRANCH

Tuesday, June 26th Mrs. W. E. Jones, Sec., Willow Grove, Pa.

GLENDALE BRANCH

Tuesday, June 26th, 8:00 p.m. 329 N. Brand Blvd., Glendale, Calif. Mrs. Helen Grigsby, Secretary 958 E. Mountain, Glendale 7, Calif. Speaker: Wm. Jonson Subject: Soil Correction (with films)

SANTA BARBARA BRANCH

Irregular Meetings Thelma Sommerfield, Secretary 210 E. Anapamu, Santa Barbara, Calif.

NEW ENGLAND BRANCH

Mrs. David Finley, Secretary New Canaan, Conn.

SANTA MARIA BRANCH

Mrs. Peter Mehlschau, Secretary Box 12, Nipomo, Calif. POSTMASTER Please Notify Mrs. Mary Ellen Clark 1618½ W. 52nd Street Los Angeles 37, California On All Address Changes

