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Photo by Lord Bledisloe.

Celebrations at Official Opening by Lord Bledisloe, January 1933, of the A. G. Simpson Domain, Hunterville, showing amphitheatre of native flora. This was one of the public gifts of the Bruce Trust—Winner of the Loder Cup for 1935.





# Journal of the New Zealand Institute of Horticulture.

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## THE MODERN DAHLIA

BY

ARTHUR C. PYE, N.D.H. (N.Z.).

During the last decade or so, wonderful success has been achieved in the raising of new types of dahlias, and the result is that, as a flowering plant for decoration in the garden during the summer and autumn months, the dahlia is of greater value now than it has ever been before.

History repeats itself as the last furore created by the dahlia was in early Victorian times. It is still remembered as a flower of the shape and size of a croquet ball, almost as hard in outline, with colours equally gaudy. The reaction against formal flowers carried the popular enthusiasm towards the free and fantastic Japanese chrysanthemums. The fault, however, was not with the Dahlia, but with the single standard of beauty in the eyes of the raisers. Chrysanthemums have been in cultivation, it is said, for two thousand years, whilst the double forms of the Dahlia are less than a century old. The so-called cactus dahlia, which saved the whole race by its freedom and informality, practically dates from 1879 when the first specimens were exhibited in England. We have now many forms surprisingly like the easy flowing grace of the chrysanthemums.

Flower loving is sentiment, kindled with imagination and depends vastly more upon the person, than on the flower. When once a person places himself in sympathy with Nature and learns the art of seeing everything at its best, then he is in a position to reap the full joy of a garden. It really does not matter whether the flowers are Dahlias, Sweet Peas or any other flowers.

Of the several thousand named varieties of Dahlias in cultivation to-day, there may be five hundred, so pronounced and individual, that no one could wish them to be any different. There are five

hundred or more types of beauty, each of which may be true to an ideal leaving nothing to be desired. Can we say, therefore, that one is better than another. It is just a matter of individual preference. How frequently one hears the remark "I hate that colour," the expression being in most cases a mere figure of speech, but it is an undeniable fact that some colours or combinations of colours do affect the senses of observers in a variety of ways.

For these reasons the inevitable question "What are your twelve best varieties?" is something of a temper tester. But it is a perfectly fair question if it is taken to imply individual preference and a disregard of varieties for special purposes. Therefore, it is not the intention of this article to formulate a list of recommended varieties for planting, which may safely be left to individual taste, with perhaps guidance from those engaged in the industry, but more as a review of the evolution of the Dahlia and the trend of modern practice towards that end.

The first mention of the Dahlia occurs in Hernandez who published a history of Mexico in 1651, and who mentions two species only. Menonville, who was employed by the French minister to steal the cochineal insect from the Spaniards, was the next to notice the existence of the Dahlia. The Abbe Cavanilles gave us the first scientific description from a specimen which flowered in Madrid in 1790, and he named the plant after his friend, Andrew Dahl the Swedish botanist. The Marchioness of Bute introduced the plant to England in that same year, but this single plant speedily perished, and the Dahlia did not appear again in England until the old single species *Coccinea* was flowered by Fraser, at Chelsea in 1803. An excellent plate of this plant is figured in Curtis's Botanical Magazine, Plate 762. This plant also perished. In the meantime, Cavanilles sent specimens of three varieties then known to the Jardin des Plantes, in 1802, where they were successfully cultivated and numerous varieties were produced and distributed between that date and 1814, when, on the return of peace, the improved flower caused a great sensation among the English visitors to Paris. This led to large importations during the ensuing winter.

The original plants at Madrid do not appear to have yielded many varieties—not more than three are mentioned. Humboldt, however, who found the plant growing in sandy meadows 5000 feet above sea level, sent home fresh seed to Paris and Berlin in 1804, from which the numerous varieties subsequently obtained were derived.

The year 1809 saw the production of the first double flowers, and even as late as 1818, Sabine was told of a "double white but doubted its existence." It is interesting to note that De Candolle, the eminent botanist, expressed his opinion that we would never see a blue Dahlia, on the grounds that, blue and yellow being the fundamental types of colour in flowers, they mutually exclude each other.

There was not a single new or original idea in the evolution of the Dahlia until 1873 at the earliest. The Dahlia was kept rigidly



to the ball type and, whatever grace and freedom the Dahlia now possesses, is traceable to a single plant, which bloomed for the first time in that year. This was the parent of the so-called cactus Dahlia, a name that has continued to the present day. It was the colour and not the form, which gave point to the comparison in the first place, and we now have a great variety of colours in that form—colours that do not necessarily remind one of cacti.

From the Gardener's Chronicle of October 4th, 1879 we glean the first description of the Cactus Dahlia, published in England:—

“At one of the recent meetings of The Royal Horticultural Society, considerable attention was attracted to a remarkable Dahlia exhibited by Mr Cannell, under the name of Cactus Dahlia. In the Dahlia as ordinarily seen, the florets are rolled up so as to resemble so many short quills, open at the ends, but in the present case the florets are all flat or nearly so, strap shaped like the outer florets of the original species, and of a rich crimson colour. The appearance was therefore very striking, and suggestive of a new race of Dahlias, analagous in some respects to the Japanese Chrysanthemum.”

The publication of this description had an interesting sequel for about a month later on November 8th, 1879, The Gardener's Chronicle published the following:—

“Dahlia *Juarezii*. When a short time ago we figured this remarkable Dahlia from the specimens sent to us by Mr Cannell, we took some pains to ascertain its history, but with little result. Thanks to Mr Krelage of Haarlem, and Mr Jongkindt Coninek of the Tottenham Nurseries, Dedemsvaart, near Zwolle, we are now enabled to give the history of this Dahlia as narrated by the introducer, in the Dutch journal *Sempervirens*. “When reading in The Gardener's Chronicle of Oct. 4th 1879, I was agreeably surprised to see a well made figure of natural size of an old acquaintance of mine, Dahlia *Juarezii*. I was still more surprised to see by the few additional lines that very little is known of the origin of this beautiful Dahlia, be it species or variety. I am therefore pleased to avail myself of the opportunity of giving a few details about its origin and history, and to say that I imported it directly from Mexico, and was the first to introduce it to the trade in the Netherlands, as well as to other countries. In the autumn of 1872, a friend of mine in Mexico sent me a case of seeds, bulbs and flower roots from that country. The case was a long time on the journey and, as frequently happens with private importations, the plants arrived in poor condition: the seeds were mixed, partially germinated and spoiled: the bulbs and flower roots rotten. However, I kept all that were in tolerable condition carefully, awaiting the result. At last a very small flower root threw up a tender shoot, which soon proved to be a Dahlia. Being winter time I could only make cuttings of it, and having taken great care of them, I was much pleased in the spring of 1873 to obtain a few plants of this Dahlia, which, when planted out with my other Dahlias, flowered at the same time, and not only surprised me, but also

all who saw it in bloom, by its large crimson flowers, so different from all other Dahlias. The brilliance of its red flowers nearly equalled that of the poppy. My catalogue of 1874 in which year I first introduced this Dahlia to the trade, will prove the truth of my assertions. In that catalogue it is mentioned for the first time under the name of *Juarezii*, which name I gave it in honour of M. Juarez then President of Mexico. The fact that Messrs Ant. Roozen and Sons of Overveen derived it from France is easily understood when I say that I yearly send to French Seedsmen, a great many Dahlia roots. It is remarkable that *The Gardener's Chronicle* should use the name of *Cactus Dahlia*, for in my catalogue of 1874, I remarked that its flowers when seen at some distance resembled those of *Cereus* (*Cactus*) *speciosissimus*. To maintain the honour of Dutch horticulture, I deem it desirable to write these few lines.—J. T. Van der Berg, Juxphaas, near Utrecht.”

The evolution of the Dahlia has been rapid since that date, although the ball type of Dahlia fell into disfavour and suffered a period of neglect. With the introduction of the new blood, new varieties were raised and gave Dahlia culture a much needed impetus. The *Cactus Dahlia* then lost some of its popularity, owing to its propensity of hiding the blooms among the foliage and to the weakness of the stems. With the introduction of the stiffer stemmed decoratives, the *Cactus* was pushed still further into the background. The longer stems led to a revolution in the exhibiting of Dahlias, permitting the blooms to be shown in a more natural manner, in vases, instead of on boards. It may be mentioned here that there is, unfortunately, a tendency in some parts of the Dominion to revert to the practice of exhibiting on boards again. This is to be regretted as, if this practice is persisted in, just as surely will the dahlia lose much of its popularity.

The Dahlia still has the old familiar potato-like foliage, which is naturally broad and coarse. However, much of this rankness is due to methods of cultivation. There is another form of foliage that is more fern-like and has a much more graceful appearance, and we could well do with more of this type. Between these two extremes there are many variations, including a form of reddish colour. This colour is very uniform and has an entirely natural look. To me it looks more at home in the flower border, than do the copper beeches in the street. Finally, there is a tendency towards variegation in the Dahlia foliage which seems quite as legitimate as the whitened leaf edges of many ornamental shrubs. This has appeared more than once in the history of the Dahlia, but the variegation seems to be unstable and difficult to preserve; it is worth while trying to retain and very agreeable for a change, as the foliage of Dahlias is undeniably monotonous, when seen in the mass, and a garden needs these lively touches here and there to brighten the general effect.

It would be a step in the right direction if the system of colour naming were standardised with the aid of some reliable colour chart. To take just one instance, I have before me several catalogues each



of which describes the same variety in a different manner: as white tinted magenta: white tipped purple: pure white with violet tips: and pure white delicately tinted lavender. This illustrates the difficulty of determining a secondary colour, of which only a small portion is present. By crowding together the petals in the hand, the secondary colour comes out more strongly, and is more easily classified by means of a colour chart. Colours do the most unexpected things sometimes in plant breeding, but there are known rules in colours that may be taken advantage of. Dilute purple and you get crimson pink, which has two bad faults. It is inclined to be laid on unevenly in patches and veins, instead of being evenly suffused, and it is so variable in quantity and quality that it makes somewhat of a lottery as to what sort of bloom one will get. In selfs, i.e., blooms having but one colour, these shades are practically fixed and uniform, but variegated Dahlias, containing degrees of purple, crimson, rose, magenta, violet, lavender and pink, can hardly be relied upon at the present time from descriptions. They may be any one of these shades as, in most cases, they depend on factors of cultivation or feeding, which may or may not be controllable. Pure and delicate shades of pink may suffer, in that plant food may deepen them all the way to purple in a single season, and sooner or later they revert to their purple ancestors. It frequently happens that Dahlias that are full of glowing colour in the sunlight are very tame and subdued in the shade. These colours can be made live by intelligent crossing. A touch of orange lightens up the red flowers that are dull in the shade to a great extent, and experiments on these lines will give more glowing colours, that will give more enjoyment than dull reds.

The lengthening of the season of bloom of the Dahlia is one of the most striking examples of its plasticity in cultivation. When Dahlias were first introduced, they bloomed barely a week or two before frost, but now they should be in bloom by January and continue until frost comes.

In the evolution of the Dahlia rather more attention has been paid to size of bloom, than to form and habit. This is a line along which raisers will find plenty of scope. The ideal is a well built bloom that has depth as well as diameter, carried on a good stout stem, well above the foliage. The buds sometimes open with difficulty and form lop sided flowers. The same trouble has been noticed in other members of the family Compositae, and is one of the limitations of the Dahlia and a plant that persists in this bad habit is best discarded at the first opportunity.

In sandy soils Dahlias make comparatively few tuberous roots, tend to become dwarf and flower profusely. In soils of a rich, loamy nature they will make more roots and less flowers. The use of nitrogenous fertilisers will also cause a coarse rank growth, and a reduction in the quantity and quality of the bloom. One essential point to remember is that no amount of added plant food can ever atone for neglect in the physical condition of the soil. Thorough prepara-



Dahlia—Giant Decorative—Formal.



Dahlia—Giant Decorative—Informal.  
(Mrs Browne Clayton—N.Z. Raised.)



tion of the site and frequent cultivation after planting will carry the plants safely through the driest season.

The Giant Decorative type has been popular for some time past with exhibitors, and the numbers of forms are now so varied that it becomes necessary to divide this class into two divisions. The Formal Decorative, which still retains the quilled centre petals of the old ball type in a much larger form, and the Informal Decorative, as its name denotes, is a more free flowing type with broad petals which may take on many combinations. The effect of many of the Giant Decoratives has been marred by sacrificing form to mere size. Mere diameter should not count unless there is depth as well, to balance the bloom.

The Hybrid or Semi-Cactus is a more graceful type of bloom, and may be very varied, but all exhibit the characteristic twisted tips which give a light appearance to the blooms. These are very popular for exhibition as well as for cut flowers. The blooms are of large size and need a good stem to carry the flower to the best advantage.

The Cactus has been kept quite pure through history and recent additions show a great improvement in the length and strength of the stem, which has always been the weak point in this class. The petals are twisted and rolled into tube like form, giving a very light and graceful appearance and the Cactus seems to be assured of another era of popularity.

The Garden Cactus is an innovation of the last few years. The blooms are on the whole heavier in build than the Cactus proper and, instead of the petals being twisted into a tube, they are folded back on a line down the centre of the petal. A distinct advantage is the long stiff stems which carry the blooms well above the foliage, and these are among the most useful for decorative work.

The Show type of Dahlia appears to be coming into favour again. This is the ball type of Dahlia popular fifty years ago, in which two definite types were recognised—the Show and the Fancy. Whether they will regain their place in popular favour has yet to be seen.

The Medium Decoratives are enjoying a full measure of patronage, and for cut flower work they are excellent. Usually very free flowering and producing large quantities of useful blooms under seven inches in diameter, the stems are as a rule long and wiry, showing the blooms to advantage.

The large Paeony flowered type is very little grown at the present time, being eclipsed by the more modern type of decoratives.

The Miniature Paeony or, as they are now known, Charm Dahlias, are planted in large quantities for cut flower work, for which purpose they are admirably adapted. The distinctive characters are an open centre with three rows of ray florets. Borne on stiff wiry stems, these dainty flowers are an acquisition.

The Small Decoratives were at one time included with the Miniature Paeony under the name of Charms, but the large and varied

number of seedlings placed on the market, rendered a re-classification necessary. The name Charm is now reserved for the Miniature Pacony alone. The essential differences being that, while the Charm has an open centre, the Small Decorative has the centre full of petals. The standard size for each of these classes is under five inches in diameter.

The Pompon is one of the oldest forms of double Dahlias and has been brought to a high pitch of perfection. Its evolution is practically complete, and no one would wish them any different. These dainty flowers have a beauty that is all their own and as a class afford a cheap method of producing a large quantity of useful cut flowers. New varieties do not appear with the same freedom as with the other classes of Dahlias, but these plants are among the best for those whose space is limited as they may be grown with very little trouble.

Single Dahlias will probably always be grown, for there are numbers who admire their dainty grace. They have an airy appearance as cut flowers, which many of the other classes lack, and some delicate pastel shades are available which are effective when arranged in the home.

The Collarette type is an improvement on the Single Dahlia. The inner ring of small florets is usually of a contrasting colour to the outer rays and some of the combinations are very effective.

The Orchid Flowered Dahlias are quite a novelty and are also derived from the Singles. Most of the varieties will grow to a height of 3 to 3½ feet, the single blooms having twisted or fluted florets. The reverse side of the petal is seen on the upper side of the flower and this is frequently of a contrasting colouring from the rest of the bloom, giving a somewhat bizarre appearance which is nevertheless pleasing as a cut flower.

The Star Dahlias are for the most part semi-double flowers with stiff, spiky petals which give to the blooms a characteristic star-like form, and are useful for cut flower purposes, the stiff wiry stems being admirable.

The Mignon or Dwarf Bedding type of Dahlia is one of the greatest acquisitions of recent years, and it is difficult, in view of their widespread popularity, to realise that the dwarf bedding Dahlia is an introduction of comparatively few years standing, and the double flowered forms, are an even more recent development, endowed as they are with almost every virtue necessary to the perfect bedding plant. Not only are the plants compact and bushy in habit, the flowers borne with a freedom that makes the general effect that of a literal sheet of colour, but the stems are fully capable of the task of bearing the rather weighty flowers aloft unaided.

It has always, of course, been possible to raise Dahlias from seed, but formerly it was a case of raising thousands in the hope that two or three out of a batch would prove worth retaining for propagation, the rest being destroyed as rubbish. That system was beyond



the scope of the average gardener. To-day it is a different matter and it must be acknowledged that a most notable achievement in the cult of the Dahlia is embodied in the plain statement that the raising from seed of the new modern races of bedding Dahlias is no longer a mere speculation, but a simple process by which thoroughly good stock may be obtained.

It frequently happens in plant breeding that, while striving for one particular ideal, something quite unexpected turns up. Thus in the course of breeding and fixing dwarf bedding Dahlias, doubles have been obtained with reflexed and quilled petals, serviceable to cut flower growers. The so-called Zinnia flowered Dahlia is another modern type, and there are also anemone flowered varieties, the blossoms being closely packed with tubular or quilled florets, with a surrounding halo of broad and more or less flattened petals. In the case of the two latter types it is necessary to rely upon cuttings for the necessary stock, but the Dwarf Bedding strains come so consistently good from seed that there is now no need to be dubious as regards results. The latest type to be evolved are named Ideal Bedding Dahlias, growing in symmetrical little bushes, the foliage no more than one foot high, while the blooms stand up on straight, slender but stiff stems showing themselves to the greatest advantage. Those are exactly the qualifications for a good bedder.

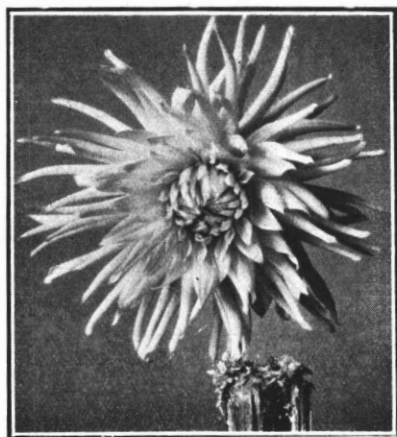
When the garden loving public, as distinct from the grower of Dahlias for exhibition, began to demonstrate its approval of the Small Decorative and semi-double varieties, by planting in clumps and patches to provide autumn colour, it dawned upon a few live members of the trade that, if it were possible to produce varieties dwarf enough to stand without staking yet sturdy enough to hold up a large number of gay flowers, this would constitute a new and invaluable race of bedding plants. The Star, Miniature Cactus and Charm classes brought this desirable achievement within measurable distance, and the opportune arrival of the Coltness Gem provided the key to the gateway of the last path to be traversed.

Whether the raisers have succeeded in their search for the ideal may be left to the judgment of those who have been fortunate enough to have seen the displays of these Dahlias in the parks of London. Flood-lit at night by immense arc lamps, the beds of Dwarf Bedding Dahlias are considered one of the sights of that great city in the late summer and autumn.

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Dahlia—Hybrid Cactus.  
—Full Centred.



Dahlia—Cactus.

- VIII. **POMPON DAHLIAS:** Have flowers like those in Section VII but smaller—for Show purposes must not exceed 2 inches in diameter.
- IX. **CACTUS DAHLIAS:** Have flowers fully double with the margins of the florets revolute for not less than three-quarters of their length, the central florets forming a filbert-shaped group. (a) Large flowered—over  $4\frac{1}{2}$  inches in diameter. (b) Small flowered—not exceeding  $4\frac{1}{2}$  inches in diameter. (c) Dwarf Cactus—not exceeding  $2\frac{1}{2}$  feet in height.
- X. **SEMI-CACTUS DAHLIAS:** Have fully double flowers with florets broad at the base and margins revolute towards the apex, slightly twisted for about half their length. (a) Large flowered semi—over  $4\frac{1}{2}$  inches in diameter. (b) Small flowered semi—not exceeding  $4\frac{1}{2}$  inches in diameter. (c) Dwarf semi—not exceeding  $2\frac{1}{2}$  feet in height.
- XI. **STAR DAHLIAS:** Small, with two or three rows of somewhat pointed rays, not or scarcely overlapping at their more or less recurved margins, and forming a cup-shaped flower with a disc.

### LODER CUP AWARD, 1935.

For the Loder Cup Competition, 1935, under the amended conditions as published in the previous journal, no less than twelve nominations were received and the Loder Cup Committee has made a unanimous award to the Bruce Trust in perpetuation of the memory of the late Robert Cunningham Bruce, the founder of the Trust, who died at Wanganui on the 23rd April, 1917.

By his will be left his residuary estate in the hands of Trustees “for afforestation and making of National Parks and Domains in New Zealand.”

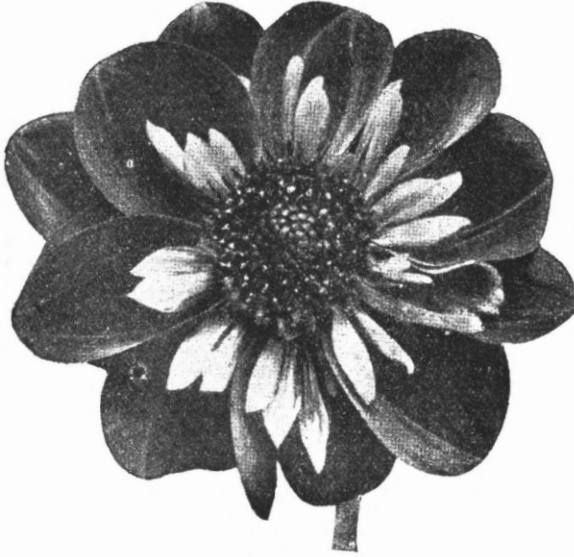
One of the first acts of the Trustees was to acquire an area of magnificent bush at Silverhope, which they named “Bruce Park.” Another major purchase was a typical example of ninety acres of heavy forest viz. the “A. S. Simpson Domain,” about three miles on the Poukiore side of Hunterville, and which was officially opened by his Excellency, Lord Bledisloe, on the 16th January, 1933.

The Bruce Trustees found the whole of the money for these two parks, which are both fine examples of virgin forest.

The policy of the Trustees has been to acquire areas of typical New Zealand Forest in order that succeeding generations may learn something of the beauty of our native bush.

For the most part the Bruce Trustees have subsidised efforts by the Crown, Local Bodies, Domain Boards and Societies with objects allied to the Bruce ideals and financial grants, involving many thousands of pounds, have been made towards acquiring areas of native bush for preservation.

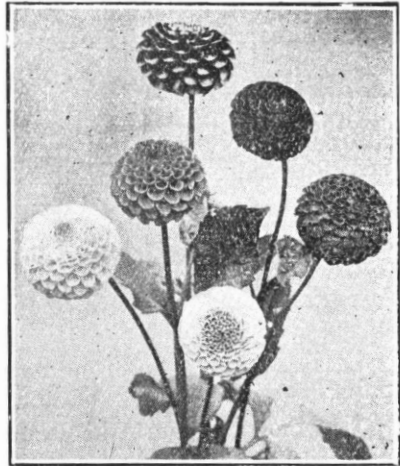




Dahlia—Collarete.



Dahlia—Charm or Small Decorative.



Dahlia—Pompon.

ROYAL HORTICULTURAL SOCIETY AND THE NATIONAL  
 DAHLIA SOCIETY—SUMMARY OF DAHLIA  
 CLASSIFICATION, 1933.

- I. SINGLE: A single regular outer ring of ray florets, the centre forming a disc. (a) Show Singles should not exceed 3 inches in diameter and the 8 (only) ray florets should be smooth, somewhat recurved at the tips, broad and overlapping so as to form a perfectly round flower. (b) Singles—not completely overlapping with separated tips. (c) Mignon—plants not exceeding 18 inches in height.
- II. ANEMONE—FLOWERED DAHLIAS: Have one or more rings of flat rays surrounding a dense group of tubular florets, longer than the disc florets of (I) and usually of a different colour.
- III. COLLARETTE DAHLIAS: Have one or more rings of flat rays as in Singles and above each a ring of florets (the collar), generally of a different colour and only half their length. (a) Collarette Single have only a single row of rays and one “collar,” with a central disc. (b) Collarette Paeony—flowered—have two or three rows of rays and “collars,” with a central disc. (c) Collarette—Decorative—are similar but are fully double.
- IV. PAEONY—FLOWERED DAHLIAS: (a) Large—flowers over 7 inches in diameter. (b) Medium—between 5 and 7 inches in diameter. (c) Small—less than 5 inches in diameter. (d) Dwarf—plants not exceeding 2 feet 6 inches in height.
- V. FORMAL DECORATIVE DAHLIAS: Have fully double flowers, showing no disc. All the floral rays are regularly arranged, the margins of the florets being usually slightly incurved and more or less flattened towards the tips, which may be broadly pointed or rounded. (a) Large—over 7 inches. (b) Medium—between 5 and 7 inches. (c) Small—under 5 inches. (d) Dwarf—not exceeding 2 feet 6 inches in height.
- VI. INFORMAL DECORATIVE DAHLIAS: Have fully double flowers, showing no disc. The floral rays are not regularly arranged, broad, scarcely revolute, more or less flat or slightly twisted, and more or less pointed.  
 The plants in this section fall in four groups corresponding with the four groups in Section IV.
- VII. SHOW DAHLIAS: Have fully double flowers, over 3 inches in diameter, almost globular, with central flowers like the outer, but smaller; florets with margins incurved, tubular, short and blunt at the mouth, includes Dahlias of this form with florets tipped white or striped, sometimes called “Fancy” Dahlias.

### MT. ALBERT CITRUS TEST AREA.

Extract from the Annual Report of the Auckland Citrus Committee (N.Z. Institute of Horticulture) for year ending 31st August, 1935.

This area was planted in August, 1933, as a test and demonstration plot for the purpose of comparison of—

- (1) The influence of Citronelle (rough lemon); Sweet, Sour and Trifoliata orange stocks on lemon trees.
- (2) The influence of Citronelle (rough lemon); Sweet, Sour and Trifoliata orange stocks on orange trees.
- (3) The influence of Citronelle (rough lemon); Sweet, Sour and Trifoliata orange stocks on grapefruit trees.
- (4) The relative merits under local conditions of varieties of lemons and oranges obtained from various sources overseas and within the Dominion, and
- (5) To serve as a meeting and demonstration place for citrus growers, and
- (6) To serve as a training ground for students of the Agricultural Wing of the Mt. Albert Grammar School.

Of the 116 trees planted 9 have had to be re-planted during the past two years due to mortality ordinarily inseparable from transplanting, cultivation, etc., and not in any way attributable to poor affinity of variety to stock.

The results obtained to date are summarised as follows:—

**CITRONELLE STOCK** produces a large sized tree more quickly than any other stock, also a tree of open framework. This applies regardless of variety.

**SWEET ORANGE** produces a sturdy tree of compact growth and very luxuriant foliage, practically no variation as to variety.

**SOOR ORANGE** produces growth which is very short jointed with foliage rather smaller and of a deeper green colour than any other stock. Some early flowers were also produced.

**TRIFOLIATA ORANGE** produces trees of very poor growth and very precocious as to flower and fruit. Trees were difficult to establish and to date the stock is the least suited of any of those under trial.

Several meetings of growers have been held in the area and favourable opinions expressed as to the demonstration possibilities and appreciation of the establishment of the plot where some of the growers' problems may be investigated.

Many distinguished visitors to the City of Auckland from overseas and from various parts of the Dominion have also visited the area, and thus a wider knowledge of, and sympathy towards, the Citrus Industry have been developed.

Students have had free access to the area at all times, classes in citrus culture have been conducted by the staff of the School and demonstrations and lectures given by prominent growers, while practical work of many kinds on the land and trees have been performed by the students.

## REVIEW.

### THE R.H.S. DAFFODIL YEAR-BOOK, 1935.

The Royal Horticultural Society's Daffodil Year Book for 1935 is of special interest as it contains a full report of the Daffodil Conference held in London in April last. The papers presented at the Conference are printed in full together with the discussions. Reports of the exhibition held in conjunction with the Conference, and of the provincial and overseas shows make most interesting reading. Mr. P. D. Williams, V.M.H., contributes an article on "British Daffodils—Past and Present," and includes a list of reliable and popular varieties of moderate price. Mr. E. A. Bowles, M.A., F.L.S., V.M.H., deals with "Species of *Narcissus*," a number of those described being illustrated.

Daffodil Trials conducted at Wisley, Kirton and Gulval, are ably reported upon by the officer in charge of each station. Professor Dr. van Slogteren, the eminent Dutch Scientist in charge of the Laboratory for Bulb Research at Lisse, Holland, writes interestingly on the "Influence of Climate," etc., on the Early Forcing of Daffodils.

Hybridists and amateur growers will be interested in Mr Guy L. Wilson's article on "The Breeding of Daffodils." Mr. Wilson deals thoroughly with the process of hybridising, giving freely of his own experiences and shows results of various pedigrees.

The commercial or market grower will find his interests well catered for in "Daffodils for Cut Flowers" by Mr. G. W. Leak, V.M.H., a recognised authority on this subject, "Commercial Cultivation of Daffodils for Bulb Production," by Mr. A. W. White, a leading grower at Spalding, the centre of the industry in Britain, and the "Future of the British Dry Bulb Industry" by Major A. A. Dorrien-Smith, D.S.O., of the Scilly Islands. Mr. F. A. Secrett, F.L.S., gives his experience of dealing with various Daffodil Pests and Diseases.

Altogether, the Year Book contains a wealth of information of interest to all growers and must be considered a valuable publication, containing, as it does, the views of the world's leading Daffodil experts.

The Year Book concludes with an account of the work of Mr. H. Poole, a vice-president of the National Daffodil Society of New Zealand, and a grower and exhibitor of many years standing, whose portrait is the subject of the frontispiece. This honour to New Zealand's Grand Old Man of Daffodils will be highly appreciated throughout the Dominion, where his work and continued deep interest are so well known,



## **REPORT OF THE EXECUTIVE COUNCIL FOR THE PERIOD 1st APRIL, 1934, TO 30th SEPTEMBER, 1935.**

Your Executive Council's remit to the 1935 Conference "That the Institute's financial year should end on the 30th September, instead of on the 31st March" was carried and this report and the relative accounts therefore cover a period of eighteen months. It was felt that the end of the financial year should be nearer the Conference date.

**PATRONS:** Viscount Bledisloe and Lady Bledisloe are greatly missed but the Institute highly appreciates the acceptance of its Patronship by their Excellencies, Viscount Galway and Lady Galway, who are also keen horticulturists.

**EDUCATION:** This is dealt with fully in the Examining Board's report, but the opportunity is taken of again thanking the Board's members and examiners for their efficient and valued voluntary services. During the period under review, the amended Examination Syllabus was printed and a separate syllabus for examinations in Florists' Art and for Seedsmen has been circulated and the issue of several certificates has since been approved. Employers of gardening students have been requested to remind them of the necessity for immediate registration with the Institute upon the commencement of their garden service.

**JOURNAL:** The Executive again extends its thanks to the Editor of the Journal (Dr. W. R. B. Oliver) and also to contributors thereto. In order to keep in closer touch with members it was decided to revert to quarterly publication.

**CITRUS:** Good work has been continued throughout the period by the Auckland Citrus Council of the Institute in fostering the citrus industry and with the Test Area at the Mount Albert Grammar School.

**PRESERVATION OF NATIVE BUSH:** The passing of the "Native Plants Protection Act, 1934" was an outstanding event for which credit is due to Mrs. Knox Gilmer, who inaugurated the movement. A Committee of the Executive Council assisted with advice as to the preparation of the schedule to the Act.

Assistance has also been given in connection with the preservation of bush at Mount Pirongia, Piano Flat (Southland) and Mount Holdsworth.

**PLANT RECORDING:** During the period Mr. George Lee of Templeton, Canterbury, was granted the recording of a new variety of apple under the name of "Lee's Red Cox" and Mrs. Alma Terrill of Rappahanneck, Murchison, of a new variety of plum "Omega."

**NATIONAL CONFERENCE ON HORTICULTURE:** The Sixth National Conference on Horticulture was held at Dunedin in January 1935, and

included the annual meetings of the Institute, the New Zealand Horticultural Trades' Association, the Horticultural Seedsman's Association of New Zealand and the Association of Parks and Reserves Superintendents. The delegates were given a civic welcome, combined with the official opening of the National Conference and Flower Show, by the Mayor of Dunedin (Rev. E. T. Cox). The Show was a splendid display and well attended. The Annual Meetings of the bodies previously mentioned followed after the first day of the Show and all delegates, including the ladies, participated in many pleasant outings and social functions.

**BANKS LECTURE:** The subject of the Banks Lecture at the 1935 Conference was "Some Aspects of the Vegetation and Flora of South Island" and it was delivered by J. Scott Thomson, Esq., F.L.S., F.C.S., Dunedin. The hall was packed with an interested audience which thoroughly enjoyed an excellent lecture, well delivered and illustrated with a large collection of coloured lantern slides from photographs by the Lecturer.

**CONDOLENCE:** The Institute has conveyed its sympathy to the relatives of:—

Dr. Leonard Cockayne—Wellington.

Sir Edwin Mitchelson—Auckland.

George A. Green—Auckland.

Dr. Cockayne, Past President and Hon. Fellow, assisted outstandingly in the foundation, constitution, legislation and educational programme of the Institute. Sir Edwin Mitchelson was an Honorary Fellow who played an important part in horticulture and city beautification at Auckland. Mr. George A. Green, Dominion Organizer of the Institute, assisted in its formation and was an energetic force in all its activities, citrus, educational, horticultural, etc. His loss is a personal one to every member.

**FINANCE:** Notwithstanding the renewal of the Government's Grant of £100, which is highly appreciated, the period under review ended with a less favourable balance than for the preceding year. This, however, is accounted for mainly by the issue of Journals quarterly instead of half-yearly and the provision of compassionate allowance.

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## REPORT OF EXAMINING BOARD FOR THE PERIOD 1st APRIL, 1934, TO 30th SEPTEMBER, 1935.

**EXAMINATION SYLLABUS:** The main syllabus has been brought up to date and printed. Copies have been issued to all students, examination candidates, instructors, etc. A separate syllabus for examinations in Florists' Art and for Seedsmen has been circulated to all those known to be interested. The issue of several certificates in Florists' Art has been approved subsequent to the period under review.

**GARDENING STUDENTS:** Employers were requested by the Executive Council through the Journal, to remind gardening students of the necessity of registration immediately upon the commencement of garden service and "dodgers" to the same effect were forwarded to nurserymen and other employers. Congratulations were extended to Messrs J. A. McPherson and B. P. Mansfield on the excellent instructional work being carried out with gardening students at Christchurch and Invercargill respectively, and also to the Canterbury District Council.

**EXAMINERS:** On the recommendation of the Canterbury District Council, Messrs J. A. McPherson and M. J. Barnett were appointed Examiners vice J. Young (deceased).

**EXAMINATIONS:** The number of candidates for the November 1934 Examination was practically the same as in the previous year, so far as the Junior and Intermediate Certificates were concerned. The following is a summary of the results:—

Examinations.	Complete Pass.	Partial Pass.	Failure.
Junior	6	5	
Intermediate	3	1	1
Diploma			2

**CERTIFICATES ISSUED:** Appended is a list of Certificates issued, after examination, in addition to those shown in previous annual reports:—

Intermediate Certificate in Horticulture	3
Junior Certificate in Horticulture	6
	9

### TOTAL ISSUED TO DATE:

					Total.
Diploma:	Without Examination	..	..	..	170
	Group C. Examination	..	..	..	27
	Group B. Examination	..	..	..	12
	Equivalent	..	..	..	1
Certificates:	Junior	..	..	..	24
	Intermediate	..	..	..	15
	Fruit-culture	..	..	..	1
					250

List of Diplomas and Certificates granted under Section 4 of the New Zealand Institute of Horticulture Act, 1927, since the issue of the 1933-34 Annual Report:

INTERMEDIATE CERTIFICATE IN HORTICULTURE:

Balch, Robert Wilson; Christchurch.  
Melhuish, Frederick Jordan; Palmerston North.  
Williams, Miss Catherine Gretchen; Dunedin.

JUNIOR CERTIFICATE IN HORTICULTURE:

Campbell, Eric Winston; Invercargill.  
Drummond, John Taylor; Invercargill.  
Melhuish, Frederick Jordan; Palmerston North.  
Petrie, George Alexander Ronald; Invercargill.  
Reece, Robert Aster; Christchurch.  
Thomas, Hector Percival; Invercargill.

THANKS: The Board records its thanks to Messrs A. H. Cockayne, P. Black and W. C. Hyde for preparing the written tests and marking the examination papers and to all others who assisted with the examination, including examiners at centres and supervisors.

## CONDITIONS FOR TRAINEES AT CHRISTCHURCH BOTANIC GARDENS.

Excellent work is being carried out at Christchurch with garden trainees, and the Institute has to thank Mr. J. A. McPherson, Curator of the Botanic Gardens there, for the following resume of the conditions imposed:—

1. Trainees, whether boy or girl, must have passed at least the Sixth Standard in any Primary School.
2. Trainees must attend one of the approved courses in Horticulture at the Technical College.
3. Trainees must keep a garden note-book, which will be periodically inspected by the Curator.
4. Trainees must attend any lecture, or series of lectures given in the Gardens during working hours by the Curator, and other lectures approved by the Board.
5. The period of training shall be five years.
6. The main object of training is to encourage boys and girls to take up Horticulture as a profession and encourage them to study for the National Diploma in Horticulture.
7. It must be clearly understood that Trainees are not classed as members of the permanent staff, and when their period of training is finished, will be required to make way for further Trainees.
8. Provided all other things are equal, Trainees will be given first consideration should a vacancy occur on the permanent staff.



9. Any Trainee, who, in the opinion of the Curator, is not making the most of his or her opportunities will be dismissed and the matter duly reported to the Board.

10. Wages of Trainees shall be as follows:—

Boys:		Girls:	
1st Year . . . . .	15/- Weekly	1st Year . . . . .	15/- Weekly
2nd Year . . . . .	20/- „	2nd Year . . . . .	20/- „
3rd Year . . . . .	30/- „	3rd Year . . . . .	27/6 „
4th Year . . . . .	40/- „	4th Year . . . . .	35/- „
5th Year . . . . .	50/- „	5th Year . . . . .	40/- „

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### INSTITUTE NOTES.

**EDUCATIONAL:** The number of candidates for the recent November Examination was well up to the standard but the preponderance of juniors in the South Island was most marked, especially at Christchurch. The Southland Junior Candidates for 1934 will no doubt swell the number of Intermediate Candidates for this year. It is pleasing to note that the Napier Reserves Department has engaged four garden cadets who are studying for the Institute's Diploma. Congratulations are extended to Mr J. G. C. Mackenzie on his appointment as Superintendent of Reserves at Hastings.

**COCKAYNE MEMORIAL:** The Executive Council has decided, on the Examining Board's recommendation, to present a gold medal annually to the best student, in the Examining Board's opinion, in the Diploma Examination, but that no award is to be made if it is considered that there is no candidate of sufficient merit.

**SEEDSMEN'S AND FLORISTS' CERTIFICATES:** The issue of several certificates has been approved. The action of the Auckland District Council in deciding to circularise all Auckland Florists, advising them to apply before 1st June next, is appreciated. It is hoped that all leading seedsmen and florists, who urged the initiation of the scheme, will also assist towards its success.

**FOREST PRESERVATION:** In connection with a deputation to the Minister of Internal Affairs, organized by the New Zealand Forestry League, the Executive Council's delegates thereon reported that the Minister was in full sympathy and every assistance was promised.

# Statement of Receipts and Payments for period 1st April, 1934 to 30th September, 1935.

RECEIPTS.				PAYMENTS.			
	£	s.	d.		£	s.	d.
To Post Office Savings Bank			223 14 10	By Salaries Dominion Secretary .. ..	162	18	4
„ Bank of New Zealand ..			115 0 9	„ „ Organizer .. ..	57	7	6
„ Cash Dominion Organizer			5 0 0				220 5 10
			343 15 7	„ Capitation Fees (District Councils):			
„ Subscriptions—				Auckland .. ..	16	9	6
Individual: Current ..	186	17	10	Hawkes Bay .. ..	4	0	0
Arrears ..	49	2	6	Palmerston North .. ..	1	10	0
			236 0 4	Canterbury .. ..	4	12	6
Affiliated Societies:				Otago .. ..	3	17	6
Current ..	77	14	0	Southland .. ..	5	17	6
Arrears ..	9	9	0				36 7 0
			87 3 0	„ Conference Advertising .. ..	15	0	
			323 3 4	Printing .. ..	3	11	11
„ Examination Fees ..			35 14 0	Travelling Expenses .. ..	8	1	2
„ Publications:							12 8 1
Journals .. ..			5 0	„ Publications Journal .. ..			75 3 10
Examination Papers ..			7 6	„ Citrus Test Area Grant .. ..			50 0 0
Daffodil Lists ..			4 0	„ Citrus Report Grant .. ..			5 0 0
			16 6	„ Seed Industry Grant .. ..			39 9 0
„ Government Grant ..			100 0 0	„ Wellington Beautifying Society ..			2 2 0
„ Citrus Test Area Grant				„ Organizer's Expenses .. ..			10 6 3
(2 years) ..			50 0 0	„ Office Expenses:			
„ National Flower Show 1934			5 11 11	Cleaning .. ..	9	3	0
„ National Flower Show 1935			16 10 11	Exchange .. ..	1	19	3
„ Donations .. ..			2 2 0	Postages .. ..	25	5	1
„ Plant Recording .. ..			10 0	Printing and Stationery .. ..	21	17	7
„ Post Office Savings Bank				Rent and Light .. ..	40	15	6
Interest .. ..			6 13 10	Telephone .. ..	15	7	0
			£884 18 1	Sundries .. ..	8	7	9
							122 15 2
				„ Post Office Savings Bank .. ..	230	8	8
				„ Bank of New Zealand .. ..	78	4	5
				„ Cash in hand .. ..	2	7	10
							311 0 11
							£884 18 1

## Income and Expenditure Account for period 1st April, 1934 to 30th September, 1935.

	£	s.	d.	£	s.	d.		£	s.	d.		£	s.	d.
To Conference Expenses: Printing ..	3	11	11											
Travelling Ex. ..	8	1	2											
Rent ..	1	5	0											
Sundries ..	15	0												
				13	13	1								
„ Capitation Fees:														
Auckland .. ..	17	7	0											
Palmerston North .. ..	1	10	0											
Canterbury .. ..	7	2	6											
Otago .. ..	3	17	6											
Hawkes Bay .. ..	2	2	6											
Southland .. ..	6	5	0											
				38	4	6								
„ Salaries Dominion Secretary ..	172	10	0											
„ „ „ Organizer ..	81	0	0											
				253	10	0								
„ Organizer's Travelling Expenses ..				10	10	0								
„ „ Expenses .. ..				10	6	3								
„ Citrus Report Grant .. ..				5	0	0								
„ Publications .. ..				70	2	3								
„ Depreciation .. ..				5	14	0								
„ Donation .. ..				2	2	0								
„ Office Expenses:														
Rent and Light .. ..	43	4	0											
Cleaning .. ..	9	3	0											
Printing and Stationery .. ..	21	17	7											
Postages .. ..	25	5	1											
Telephone .. ..	23	0	6											
Expenses .. ..	7	3	0											
Exchange .. ..	1	19	3											
Sundries .. ..	3	6	9											
				134	19	2								
				£544	1	3								
By Subscriptions.														
Individual Current .. ..	188	15	4											
„ Arrears .. ..	49	15	0											
Affil. Fees: Current .. ..	88	4	0											
„ Arrears .. ..	9	9	0											
				336	3	4								
„ Donations .. ..				2	2	0								
„ Examination Fees .. ..				34	13	0								
„ State Subsidy .. ..				100	0	0								
„ Plant Recording .. ..						10	0							
„ National Flower Show (Dunedin) ..						16	11	5						
„ Interest P.O.S.B. .. ..						10	2	10						
„ Excess of Expenditure over Income ..						43	18	8						
												£544	1	3

## Balance Sheet as at 30th September, 1935.

LIABILITIES.				ASSETS.											
				£	s.	d.									
				£	s.	d.	£	s.	d.						
Sundry Creditors	..	..	..	60	5	5	Post Office Savings Bank	..	..	233	17	8			
Examination Fees in Suspense	..	..	..	2	2	0	Bank of New Zealand	..	..	78	4	5			
Seed Industry Grant	..	..	..	8	14	1	Cash in hand	..	..	2	7	10			
Endowment Fund	..	..	..	63	0	0						314	9	11	
Accumulated Fund 31/3/34	..	..	..	261	17	1	Office Furniture	..	..	28	10	0			
Less Excess of Expenditure over							Less Depreciation	..	..	1	10	0			
Income	..	..	..	43	18	8	Awards of Merit	..	..	14	14	0			
				217	18	5	Less Depreciation	..	..	4	4	0			
				£351	19	11							10	10	0
													£351	19	11

G. S. NICOLL,  
Treasurer.

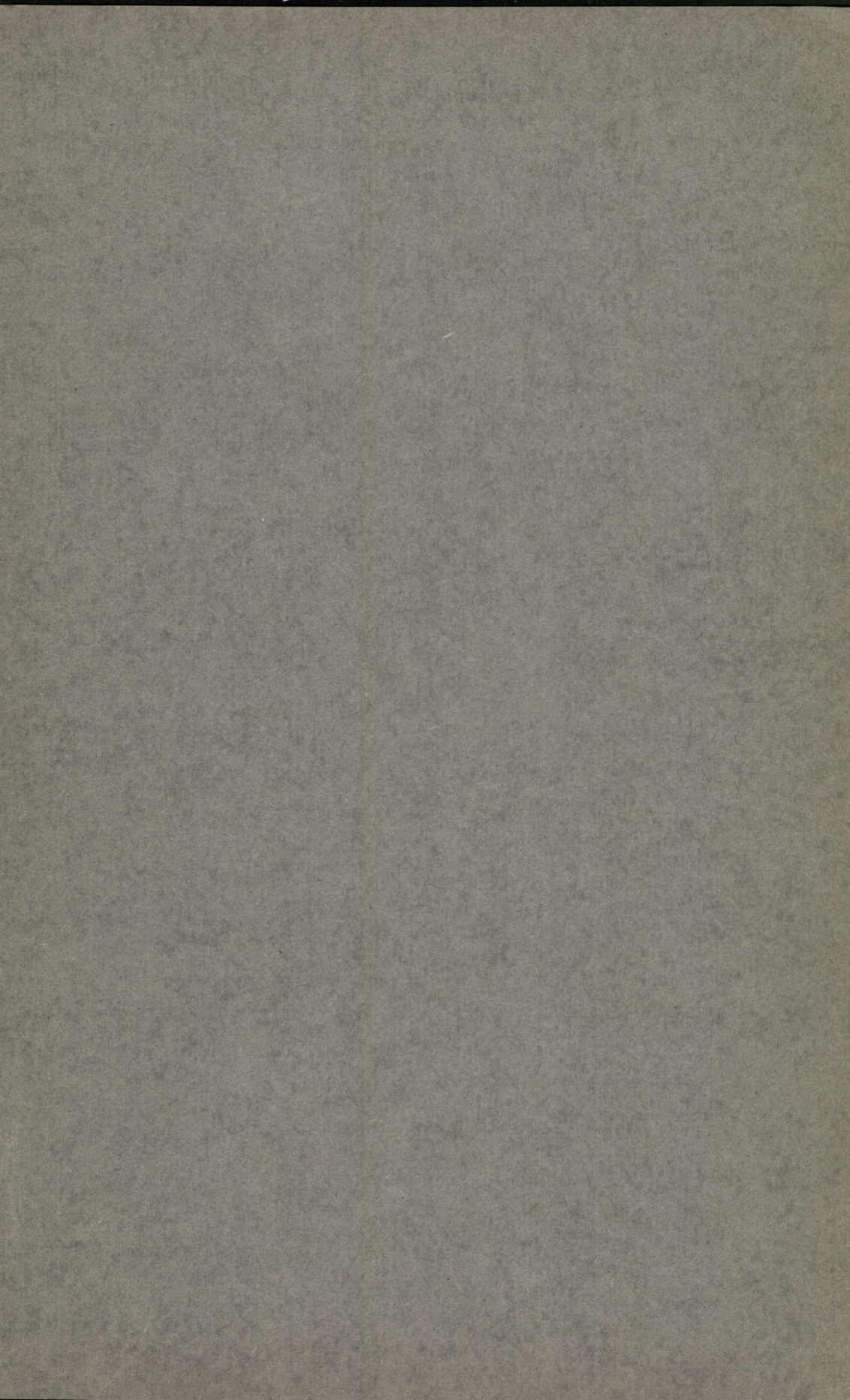
I have examined the books, papers and vouchers of the Institute, and certify that in my opinion the attached statement of receipts and payments and income and expenditure account correctly set out the transactions and the above Balance Sheet the position as at the 30th September, 1935, as disclosed thereby.

WELLINGTON, 16th December, 1935.

(Sgd.) J. L. ARCUS,  
Hon. Auditor.









# NEW ZEALAND INSTITUTE OF HORTICULTURE

(INCORPORATED.)

*Patrons:* Their Excellencies VISCOUNT GALWAY, Governor-General  
and LADY GALWAY.

*Vice-Patron:* The Hon. the Minister of Agriculture.

*President:* F. J. NATHAN, Esq., Palmerston North.

*Hon. Editor:* Dr. W. R. B. OLIVER, Dominion Museum, Wellington.

*Dominion Secretary:* G. S. NICOLL, P.O. Box 1237, Wellington.

*Hon. Secretaries of Local District Councils:*

Auckland: Miss E. F. Kibblewhite, 4 Charlton Avenue, Mount Eden.

Hastings: W. M. H. Diamond, 617 Nelson Street.

Palmerston North: J. J. Stevenson, Boys' High School.

Canterbury: J. N. McLeod, 108 Paparoa Street, Papanni, Chch.

Otago: C. Rhodes, 42 Princes Street, Dunedin.

Southland: B. P. Mansfield, Box 51, Invercargill.

*Membership:*

Individuals: 12/6 per annum (including Member's wife).

Juniors under age eighteen: 2/6 per annum.

Societies, Firms, etc., 21/- per annum.

*Journal (quarterly):*

To Members. Free.

*Examinations:*

Examinations are held yearly in November.

Students desiring examination should make early applica-  
tion to

DOMINION SECRETARY,

N.Z. Institute of Horticulture,

P.O. Box 1237, Wellington.