

Vol. 3, No. 3

October, 1932.

JOURNAL OF THE NEW ZEALAND INSTITUTE OF HORTICULTURE

CONTENTS.

	Page.
New Zealand Trees for Ornament and Shelter: By B. C. Aston	59-63
Mr. A. R. Stone: Late Secretary of the Institute	64
Reviews: Conifers in Cultivation	65
Sempervivums	66
Loder Cup Competition	67-69
Plant Registration: Oratia Beauty Apple	70
Report of the Executive Council for the Year ended 31st March, 1932	70-78
Report of the Examining Board for the Year ended 31st March, 1932	78-80
Examination Papers, June, 1932	80-83
Statement of Receipts and Payments	84-85
Institute Notes	86

*Edited under the authority of the Executive Council of the
Institute.*

EXAMINATIONS.

Examinations for the following are conducted by the Institute:—

1. Junior Certificate in Horticulture.
 2. Senior Certificate in Horticulture.
 3. Diploma in Horticulture.
 4. Second-class Certificate in Fruit-culture.
 5. National Certificate in Fruit-culture.
-

EXAMINATION PAPERS.

Sets of examination papers used at the last four examinations in horticulture are obtainable on application for sixpence per examination set.

NEW ZEALAND HORTICULTURAL JUDGES' REGISTER.

Copies of the main Register (August, 1928) and of the first Supplement (September, 1930) are obtainable on application for one shilling per set.

Address all correspondence to:

Dominion Secretary,
N.Z. Institute of Horticulture,
Box 1237,
Wellington.

Journal of the New Zealand Institute of Horticulture

VOL. 3.

WELLINGTON, OCTOBER, 1932.

No. 3.

NEW ZEALAND TREES FOR ORNAMENT AND SHELTER.

(Continued from March Journal.)

By B. C. ASTON.

SOME EASILY GROWN SPECIES OF MERIT.

The tall forest trees of New Zealand are usually considered to be slow-growing, although authorities have shown that these trees grow quite as fast as the hardwood trees of other temperate climates do in their own countries. P. Black, Director of the Palmerston North Reserves, has demonstrated that good shelter trees can be grown in a comparatively short time from cuttings taken from mature totara (*Podocarpus totara*), and this species is accounted one of the slowest growing New Zealand forest trees when raised from seed or small plants taken from the forest. Evidently there is still room for enquiry as to the rate of growth of New Zealand Podocarps, such as matai or black pine (*P. spicatus*) and kahikatea or white pine (*P. dacrydioides*) when propagated in this manner. If these can be got to strike from cuttings and grow as quickly as any of the three species of totara there will be available several exceptionally handsome evergreen shelter trees which would thus escape the somewhat unlovely and dawdling growth of the juvenile forms which persist for many years in the case of the white and black pine. The slow-growing miro (*P. ferrugineus*), even although it passes through no juvenile stage very different from the mature tree, may possibly be hastened by taking cuttings from older trees. Those who would see these taxad trees in all the beauty of their early maturity must seek for them in the pockets of bush growing on the forested dunes of Waikanae, especially those on Mr. W. H. Field's estate.

One of the most astonishing facts demonstrating the neglect which is accorded to New Zealand trees by gardeners is the general absence of specimens of the beautiful New Zealand beeches in private gardens as well as in public plantations and reserves, but that this is not due to lack of appreciation by the general public is shown by the number of persons who may be seen in public with daffodils and other favourite flowers bunched round a spray of beech, which is in general demand when internal decorative foliage is desired. Neither can it be that the

New Zealand beech is difficult to grow or too slow, for it is undoubtedly one of the hardiest trees as well as one of the fastest growing, indeed, one authority says it is the fastest-growing tall tree of New Zealand (Cockayne, "Vegetation of New Zealand," 1928, p. 130). These remarks apply almost equally to all the species, of which there are some four or five. All are extremely charming, hardy and quick-growing. On exposed ridges they naturally grow slower than on good soil in sheltered localities but one, the black beech (*Nothofagus Solandri*) goes through a juvenile state which may persist for many years under adverse conditions, and this state is not nearly so attractive as that of the more mature tree and it is necessarily the juvenile state that is sold by nurserymen. This may partly be the reason why it is not more generally grown. Of course, if it were possible to strike cuttings from the mature tree that form could be sold in pots, as is done by one firm in the case of the Kaikomako (*Pennantia corymbosa*), a plant which also goes through a protracted unattractive juvenile form, but unfortunately if there is a method of striking *Nothofagi* from cuttings it is not generally known. The writer has experimented in a small way in propagating various species of southern beech from cuttings, and although in some cases the cuttings remain green and retain their leaves for two years it was found that all eventually die.

Part of the neglect from which the beeches suffer may be the fact that they are "bad mixers." Although possibly the fastest growing tall tree, they are slower and less aggressive than the majority of broad-leaved shrubs which usually adorn ornamental plantations, and beeches are what foresters call "light demanders." This suggests that the proper treatment for the beech is that usually accorded to specimen trees, that is, allow plenty of space in which the tree may develop its natural beautiful form free from the competition of any other shrubs which may spoil its symmetrical growth in the young state. An alternative method would be to plant beeches in groves of the same species, thus simulating what occurs in nature where pure stands of beech are the rule rather than the exception. A Dunedin grower has planted beech trees in a tall manuka thicket with excellent results. The rate of growth of different species in the young stage is stated to be a foot of height per year (Hay, "Transactions New Zealand Institute," 1872, Vol. 5, p. 434), and this accords with the writer's experience, but the rate of growth increases greatly with the age of the tree.

The finest species is the true red beech of Otago (*Nothofagus fusca*), a forest of which is shown in the plate, growing in Lakeland. All stages of this largest leaved species, from youth until age, are highly decorative. The leaves may be of any colour, green, bronze, or even red, and the shape and arrangement are exquisite. A similar looking species, *N. truncata*, is common in Wellington, and has bronze leaves.

The black beech (*Nothofagus Solandri*) when properly grown has the branches arranged in layers like those of the deodars, and the leaves of the mature form are of the darkest green imaginable. The best results with this tree will be obtained in sheltered positions on deep soil. This species will probably be the best beech for Wellington conditions, but it

must be remembered that no tall trees are suited for the very small garden, and if planted there, eventually have to be sacrificed owing to the large amount of room occupied. Given the requisite amount of space, however, there is no New Zealand tree which will give the planter more satisfaction than one of the beeches. Another member of this beautiful genus much in prominence just now owing to an increased demand for its timber, is the Southland beech, better known as the "silver beech." Other names for it are "cherry beech," "brown beech," and "tooth-leaved beech" (*Nothofagus Menziesii*). This is one of the most abundant trees of the Dominion in certain areas and at certain altitudes in the North Island. In Wellington it is not usually found below 1700ft., and on the Tararua mountains it is a common tree above this altitude, extending up to 4,000ft., often forming pure forests. It is seldom seen exposed for sale, whether as plants or cut sprays, as is the case with several other species; but no doubt the silver beech should be more generally grown, as the foliage is very different from the other species, in dentation, colour and arrangement of the leaves and branches. In its earlier years the plant has a bushy habit of growth, making it a most acceptable plant for many purposes. According to Mr. Entrican, this species stops height growth when the diameter growth reaches 1ft. This species, however, suffers under the disadvantage in some localities of being affected with some disease similar to what is known in other plants as "witch's broom," but the writer has not observed this in Wellington. It is a host plant favoured by the large-leaved scarlet mistletoe (*Elytranthe Colensoi*) which, when in flower, is probably the most vivid-coloured plant of the New Zealand flora. It seems as though nature has endeavoured to atone for the absence of colour in the beech forest by the gift of this most glorious scarlet fosterchild to the beech. A beech tree covered with this mistletoe when in flower is something which transcends all other colour effects from New Zealand plants. Few persons can enter a beech forest without becoming aware of the charm that distinguishes it from all other types. The dappled shade which never becomes gloomy, the distinct scent and the dry floor welcome the visitor and induce him to camp on the soft, sweet bed of beechlings and dry leaves.

H. J. Matthews ("Tree Culture in New Zealand") considered that the entire leaved or mountain beech (*N. cliffortioides*) was perhaps the most ornamental of all the species, and there certainly is a charm in the close-ranked small leaves in the young trees, while the older ones form symmetrical trees of great beauty. In Wellington it seems to require a little shelter in its young state, apparently not being so hardy as the black beech. All these beeches are distinct from each other in appearance, except, perhaps, the two (*N. fusca* and *N. truncata*), which were for so long badly confused under the name "red beech," and all will grow rapidly and repay the cultivator where necessary room can be found for them. There are a number of hybrid beeches, some of which may be of value in gardens, but it is to be noted that according to Cockayne the silver beech never hybridizes.

What *N. apiculata* really is appears to be uncertain. There is a specimen in the front of a public building, No. 71 Fairlie Terrace, Kelburn, planted by me in January, 1906, which was then obtained from the foot of Mount Holdsworth, and which is therefore now more than twenty-six years old and 15ft. high. This specimen has a delightful maroon coloured foliage, but the tree is growing on poor soil in a draughty situation, and has been sadly hacked about by those desiring beautiful sprays.

Since writing about toetoe (*Arundo conspicua*), in the March Journal, the writer has found authorities to support the use of this giant tussock as a stock food. Buchanan ("Indigenous Grasses of New Zealand," 1888, p. 66) states that the economic value of *Arundo* grasses as fodder plants has been much overlooked, as they are both succulent and agreeable to stock, and the experiments on the allied naturalised pampas-grass by Sir George Grey at Kawau, and Dr. S. M. Curl at Manawatu support his statement. The latter says (Transactions, N.Z. Inst., Vol. 9, p. 536) that if kept within reach of stock they will browse it low, being particularly fond of the large, coarse leaves containing a large amount of nutriment, growing in winter and summer, the young leaves being attractive to cattle and sheep, which prefer pampas to the more delicate herbage. Without knowing anything of these experiments, a settler in the Hauraki Plains, Mr. A. McClean, of Waitakaruru, is now grazing nine acres of pampas, feeding it off in breaks in the same way as turnips are fed, and growing no other supplementary feed on his farm of 200 acres, carrying a beast to the acre. Pampas has been recommended as an economic plant by Von Mueller for the purpose of making paper. It apparently prefers wet soils to soils which are drier, and on the Hauraki Plains may find a habitat exceptionally suitable, as in the rich drained swamps there the water is very near the surface. It is much used in Taranaki as a shelter belt, being very suitable for pig farming. Toetoe was mentioned as a suitable hedge plant, and the illustration shows a 6ft. hedge which has grown to the present dimensions in two years from subdivided clumps. It is growing on the top of a dry wall which supports a terrace, and appears to be likely to prove a good quick hedge for gardens where economy and space and yet some shelter is needed in the breezy situations about Wellington. It is to be noticed that toetoe is quite impartial as to the soil it grows on, thriving on wet or dry soil. It will be remembered that one of the thickest and best hedges or wind-breaks is bamboo, which is merely a giant grass, so that there is nothing unprecedented in the use of other grasses as hedge plants.

Trees which have been greatly neglected, but which are quite hardy and especially suitable for planting near buildings, are the two species of New Zealand cedar (*Libocedrus*). They have that symmetrical form so desired by architects in their planting schemes for public buildings. The northern species (*L. plumosa* (*Doniana*)) is, according to Cheeseman, rare and local, but worthy of seeking, as it is a tree of

great charm, with numerous frond-like small branches and a thick formal habit of growth like that of cypresses and similar trees used as specimens. Once the habitat of the species is located no difficulty will be found in obtaining seedlings. *Libocedrus* belongs to the family *Pinaceae*, which includes the pines, cedars, firs, larches and cypresses of the northern hemisphere. The New Zealand species, on account of their near relationship to other highly useful and ornamental plants, should certainly be stocked by all nurserymen. New Zealand is deficient in members of the *Pinaceae*, but abundantly supplied with the species of the next family, the *Taxaceae*, but these latter are usually slow in growth, and as a rule require special precautions in growing them successfully in the colder, windier parts of the Dominion.

Other trees, in addition to the New Zealand cedars, eminently suitable, from their formal outlines or very dark foliage, for planting near public buildings, and usually planted with erect cypresses or similar evergreens, would be the karaka (*Corynocarpus laevigata*), with very dark green glossy foliage and its decided tree habit with trunk, bold outline and capacity to stand the draughts and dusts of cities; and the Rewarewa or honeysuckle tree (*Knightia excelsa*), quick growing, compact, cylindrical in habit of growth, with trunk and regular enough in outline to please the architects, and with beautiful leaves and flowers of unusual character and shape. This species belongs to the family *Proteaceae*, more largely developed in Australia, the continent of quaint land forms, than in New Zealand. The following species are also suitable:—Kowhai (*Edwardsia* (*Sophora* sp.)), Rata (*Metrosideros robusta*), Pohutakawa (*M. tomentosa**), Marlborough giant broom (*Notospartium glabrescens*) (the last four should be restricted to development of one trunk), Puriri (*Vitex lucens**), lancewood (*Pseudopanax* sp.), *Coprosma areolata*, celery pine (*Phyllocladus* sp.), Whau (*Entelea arborescens**), Puka (*Meryta Sinclairii**), cabbage tree (*Cordyline*, all sp.), New Zealand flax (*Phormium*), all species and varieties, Nikau palm (*Rhopalostylis sapida**).

After all, the planting of New Zealand trees is largely a matter of taste, and very often when wealth is acquired good taste does not accompany it; so that individuals lacking this gift not only influence the character of their own plantations but also those of the public bodies which they control. In such cases the wise would be guided by those who from their position are qualified to pronounce on matters of taste than whom there is none more qualified than the British statesman who rules over New Zealand at present.

(To be continued.)

*Those marked with a star are more suitable for the warmer portions of the North and South Islands free from severe frosts.

MR. A. R. STONE.

Mr. A. R. Stone, Secretary to the New Zealand Institute of Horticulture, died suddenly in his office on August 5th, 1932.

The late Mr. Stone, who was aged 58 years, was born at Cobden, Greymouth. He was educated in State schools and privately. At fourteen years of age he entered the service of the Public Works Department. He was transferred to Wellington, and was pay clerk during the construction of part of the Main Trunk line. He returned to Wellington after this, and then proceeded to Auckland. During his two years' service there he qualified as an accountant at the Auckland University College. After further service in the Public Works Department at Wellington, he was transferred to the Marine Department. Later, he was chief accountant of the Department of Agriculture. He left the Public Service in 1926 to enter into business as an accountant in Wellington. During the war, he served for two years in France.

The late Mr. Stone was secretary of the Wellington Horticultural Society, as well as the New Zealand Institute of Horticulture. He was an ex-President of the Wadestown Progressive Association, and was a member of the Wadestown Men's Society. He originated the plan for a children's playground in Wadestown. He took a keen interest in the work of the Presbyterian Church. He was hon. secretary of St. John's Hostel, Willis Street, until two years ago. He was hon. treasurer of the Presbyterian Orphanages and Social Service organisation. The Bible Class movement keenly interested him. He was an office bearer of the Wadestown Presbyterian Church.

Mr. Stone was a most efficient secretary, of untiring energy, and a sound adviser on all matters relating to the Institute with which he dealt. The high value placed on his services by the Institute is expressed in the following resolution passed at a special meeting of the Executive Council on August 12th, 1932:—

"That as a tribute to the memory of our late secretary, Mr. A. R. Stone, this meeting of the Executive Council of the New Zealand Institute of Horticulture, on behalf of the Institute, its District Councils, and individual members, desires to place on record its deep appreciation of the energetic and valuable services rendered by him to the Institute, and to all matters with which it was associated during his secretaryship. While deploring the loss of our secretary, we grieve much more deeply in the dramatically sudden passing of one whose general conduct in this life might well be taken as a model. This meeting also desires to tender to Mrs. Stone and members of the family its sincere consolation and sympathy in the hour of their bereavement."

Mr. Stone is survived by his widow and three young sons.

REVIEWS.

CONIFERS IN CULTIVATION.

EDITED BY F. J. CHITTENDEN, F.L.S., V.M.H., LONDON, 1932.

This volume, of over 600 pages, contains the report of the Conifer Conference held by the Royal Horticultural Society in London from November 10th to 12th, 1931. The objects of the conference were to collect experiences regarding introduced conifers, to gather together changes necessary in nomenclature, and to collect statistics of the growth in the British Isles of coniferous trees in order to compare them with those collected at the last conference, held in 1891. The conference was presided over by the Hon. H. D. McLaren, and altogether fifteen papers were read. All were printed in the report, which indeed forms a very valuable contribution to the literature of conifers, principally from the view point of their cultivation.

Conifers in cultivation are described for the British Isles by W. Dallimore, Sir J. Stirling-Maxwell, and A. B. Jackson (Chinese conifers); for the United States, by A. D. Slavin; for Scotland, by F. R. S. Balfour; for Ireland, by the Marquess of Headfort; for Eastern Asia, by E. L. Hillier; and for South Africa, by C. E. Legat. There is also an extensive list of conifers in the British Isles giving notable trees, age, height, girth and spread of branches.

Special articles on conifers deal with diseases, by Professor Borthwick, dwarf conifers by M. Hornibrook, propagation by L. B. Stewart, economic value by W. Dallimore, and chemistry by Professor H. E. Armstrong.

In addition, there are three articles on conifers in nature. A short account, interesting from an ecological viewpoint, is given by H. M. Gardner of the Conifers of Kenya. Three species form extensive forests where the altitude is above 6000 feet and the rainfall less than 50 inches. The other two articles deal with New Zealand conifers. Dr. L. Cockayne's paper is a concise account of polymorphy in New Zealand conifers and its relation to horticulture. The life history of those species in which the juvenile form differs from the adult is described, it being pointed out that nearly all the New Zealand conifers present heteroblastic phenomena to a remarkable degree, and in several cases this is more or less correlated with epharmony. A short account of this last subject follows as regard the New Zealand conifers. In the discussion on hybrids, the author states that all intermediate forms between species can be explained as either hybrids between such species or epharmones alone. Eight species hybrids are then described. Some observations on the horticultural value of New Zealand conifers conclude the article. Among other things, it is stated that the yew-like trees if grown from seed will develop into true trees, but one raised from a cutting will not develop a trunk but will be permanently a bushy shrub. Thus, by raising the totara and others by cuttings, shrubs suitable for gardens, rather than trees, may be obtained.

The article by A. C. Forbes, on the natural reproduction and survival of New Zealand conifers contains much useful information on their characteristics and distribution. The geographical relationships of the species are also discussed. Dealing with the question of the economic value of the New Zealand forests, the author states his opinion that the balance of nature is heavily weighted against the conifers by broad-leaved competitors, and further, with the disadvantages imposed by man, the future outlook of the New Zealand forests is not particularly rosy.

One or two mistakes relating to the New Zealand species should be noted. In the name list contributed by W. Dallimore, *Libocedrus Doniana* is used instead of *L. plumosa* adopted in Dr. Cockayne's article. Plates 40 and 41, accompanying the latter article, bear the legend *Dacrydium laxifolium*, but the species shown is *Podocarpus nivalis*.

W.R.B.O.

SEMPERVIVUMS.

By R. LLOYD PRAEGER, D.Sc., LONDON, 1932.

This treatise will be indispensable to all those who have rock gardens or who are interested in succulent plants. The main portion of the work is taken up by a systematic description, well illustrated by line drawings, of the eighty-five species with which it deals. Under each species is given the synonymy, description, distribution, and other information, including its horticultural value. Varieties and hybrids are dealt with in the same way as the species. The species are arranged under the following genera: *Sempervivum*, *Aichryson*, *Aconium*, *Greenovia*, *Monanthes*.

The introductory chapters deal with the history of the literature of Sempervivums, classification, variability, hybrids, parasites, epiphytes, teratology and cultivation.

Sempervivums are favourite plants for rock gardens, as they form short-stemmed perennial herbs producing clusters of white, yellow, red or purple star-shaped flowers. Their cultivation is simplified by the fact that they are most tenacious of life, hence the name Sempervivums, which is the Latin equivalent of live-for-ever. The species described in Dr. Praeger's monograph are classed as hardy (*Sempervivum*) and tender (the remaining genera). All, however, are almost equally easy to grow though some of the tender species, which, in their native habitat are accustomed to dry conditions, are sensitive to wet. Hybrids are frequent, both in nature and under cultivation. Very many names have been bestowed by botanists and gardeners on different species and hybrids of *Sempervivum*, so that great confusion has resulted. The long lists of synonyms which appear under the various species and hybrids, and the numerous garden names which have no standing in botanical nomenclature, bear witness to this. The author has had no easy task in classifying the species and hybrids, and disentangling the nomenclature. In spite of these difficulties he has produced a clear account for which botanists and horticulturists alike will be thankful.

W.R.B.O.

LODER CUP COMPETITION.

REPORT OF THE JUDGES.

As Judges in the Loder Cup Competition, held in January, we wish to make our report to you as follows:—

There was only one entry for the competition, a fact which made all the more meritorious the comprehensive display that was staged. The winner, Messrs. Bennett and Sons, of Dunedin, must have gone to considerable expense and trouble to exhibit such an extensive collection at such a remote distance from their gardens. There were altogether about 800 separate specimens in this exhibit, which in our opinion is deserving of high praise. The plants were robust and fresh, a fact all the more remarkable when one reflects that they had been transported by rail and lorry for over 240 miles. They were set out in beds and on stands, and such was the amount of floor space required, that the central bed was made over 50 feet long by 24 feet wide, while oval beds on each side were 18 feet by 10 feet, with four circular beds—one at each end of the ovals, and each of 10 feet in diameter.

The number of named varieties totalled 740, of which 630 are described in the last edition of Cheeseman's Manual. The balance included many excellent new varieties—hybrids and sports of considerable horticultural merit, the genus *Veronica* being especially responsible for many additions to the flora. Others of this nature were: Purple *Cordylines* (*Australis* and *Banksii*); *Clanthus puniceus*, pink and white varieties; *Celmisia migrescens*, *Leptospermum scoparium* of various colours, varieties of *Phormium tenax*, *Stilbocarpa*, and others.

The collection was drawn from every botanical province in New Zealand and the outlying islands, while all altitudinal zones were well represented. The arrangement of the plants was quite artistically carried out, and the labelling was commendably correct and descriptive, the competitor having evidently profited in this respect by the suggestions made by the judges last year.

Of the larger shrubs and trees in the central bed the most conspicuous were the *Kauri* (*Agathis Australis*); *Pseudopanax ferox*; *Nothopanax arborcum*, *lactum* (with striking foliage) and *MacIntyreii*; *Olearia Traillii*, *Lyallii*, *alpina*, of the tree daisy family; *Dodonaea purpurea*, with dark foliage; *Brachyglottis rangiora* and *repanda* and *Meryta Sinclairi*, with large foliage; *Senecio Hectori*, and *S. rotundifolius*, a variegated mutton bird shrub; also a variegated broadleaf—*Griselinia littoralis*. Of the native beech there were good specimens of *Nothofagus fusca*, *cliffortioides*, *Menziesii* and *Solandri*.

Shrubs in flower were *Cassinia albida* and *leptophylla*; *Carmichaelia odorata*; *Senecio Matthewsii*, *perdicioides*, *Monroi*, and *Crustii*; *Leptospermum Nichollsii*; *Olearia oleifolia*, *operina*, *Matthewsii*, *excorticata* and *Waikariensis*; *Veronica ligustriifolia*, *Barkeri*, and *rotorua*; a

beautiful plant of *Carmichaelia grandiflora*; and some cut sprays of another beautiful native broom—*Notospartium Carmichaeliae*; plants of the "Mountain Lily"—*Ranunculus Lyallii*, and the yellow flowered one from Nelson—*R. insignis*.

In the oval bed on the south side there was an excellent plant of *Sonchus grandifolius* in the centre; and other conspicuous plants were *Arthropodium cirrhatum*, the rock lily; *Elatostemma rugosum*; *Gnaphalium Lyallii*; *Myosotis albida*; *Tetragonia expansa*, the New Zealand spinach; the rare plant, *Gunnera Hamiltoni*, also a few specimens of dwarf heaths and Raoulia.

Except for the central "cabbage trees" (*Cordyline australis*), the two circular beds at opposite corners were composed entirely of the genus *Celmisia*, of which 81 named forms were shown, 60 of which are described in Cheeseman.

In the bed on the North Side there were some excellent specimens of *Celmisia Hookeri*, *coriacea*, *lanigera* (showing beautiful satiny golden tomentum), *Traversii*, *Sinclairi*, *nigrescens*, *Monroi*, *linearis*, *Coplandii*, *Hectori*, *Mackayi*, *Lindsayi ensata*, *prorepens*, *densiflora* and *hieracifolia*. Those in flower were *Mackayi*, *gracilentia*, *Dallii* and *Sinclairi*. Among the rare ones were *cordatifolia*, showing dark brown plush-like tomentum on the back of the leaves, *Dallii*, *Gibbsii*, and *vernica*—that rare purple-centred one from Auckland Islands.

In the bed on the south side were fine specimens of *Celmisia coriacea*, *Rutlandii*, *Morrisonii*, *rustica*, *Traversii*, *glabrescens*, *holosericea*, *argentea*, *spectabilis*, and one or two conspicuous hybrids. Among the rarer ones in this bed were plants of *C. Macmahoni*, *Haastii*, *Morganii*, *Ramulosa*, *Popplewellii*, *lanigera*, and *Petriei*. Although mostly past flower, the following had a few blooms: *C. major*, *Lindsayi*, *densiflora*, *spectabilis* and *coriacea* var. *semicordata*.

The other two circular beds were mostly composed of species and varieties of *Veronica* to the number of 150. On the north side of the central plant was *Donaldii*, a variegated *elliptica*. Other outstanding plants were *Veronica glauco-coerulea*, *catarractae* (in flower), *Tan-nockii* and *Bryantii*. This bed was mostly composed of low-growing species, with one or two of the creeping varieties, and it was also well representative of the "whip-cord" forms.

The whole display was a noteworthy one, and one that would have given great pleasure to the donor of the Cup, as he realized the results of his generous gift. There can be no question that of late years more attention is being directed to the cultivation of New Zealand plants in our private and public gardens, and competitions such as this are further stimulating a love of what Mr. Loder has termed "the incomparable flora of New Zealand."

We have awarded to the winning exhibitor the total of 91 points, made up as follows:—

	Marks Awarded	Possible.
1. Number of varieties	40	40
2. Quality of plants	15	15
3. Naming of varieties	12	15
4. Descriptive labelling	12	15
5. Artistic display	12	15

In doing so we wish to compliment Messrs. Bennett and Sons on the energy and enthusiasm they have shown in presenting for public exhibition such an excellent collection.

JAMES SPEDEN

WM. McKAY

C. H. TREADWELL

Judges.

COMMENTS BY MR. G. W. LODER.

I feel much honoured by your letter of June 23rd, and beg to thank you very warmly for transmitting copies of the judges' reports on the competitions for the Cup, which I have read with the deepest interest.

It is a source of much satisfaction to learn that these competitions have stimulated renewed interest in the flora of the Dominion, and the winners, I feel sure, deserve the credit which the judges have bestowed on them.

I trust that in time more private cultivators may be induced to compete—perhaps for some subsidiary prizes from which the trade and professional growers would be excluded.

I should like to be allowed to seize this opportunity of saying how welcome is the news of the formation of nature reserves.

Finally, I think I may assert, with some confidence, that horticulturists in this country are taking increased interest in New Zealand plants—*Leptospermum*, *Olearia* and *Hoheria*, to mention only a few, are the pride of many English gardens to-day.

PLANT REGISTRATION.

ORATIA BEAUTY APPLE, RAISED BY MR. MATE GLUCINA, ORATIA,
AUCKLAND.

REPORT BY MR. L. PAYNTER, ORCHARD INSTRUCTOR.

I have had an interview with Mr. Glucina, and also inspected the tree, or rather portion of the tree that first produced this apple. The original tree is an Albany Beauty, grafted, and one of the grafts produced the apple above mentioned. It is about five years since Mr. Glucina first noticed this branch, and as it was superior to Albany Beauty he decided to graft over some trees that he was cutting off. This he did three years ago, and these trees are now bearing fairly well.

Although Mr. Glucina had noticed this apple some years ago, he had not grown sufficient to indicate it was in any way superior. However, this season, as he was packing up the fruit in the shed, Mr. W. Rice, late Orchard Instructor, Auckland, called, and indicated to Mr. Glucina that it was something above the ordinary, and advised him to take the action he did. Moreover, it was Mr. Rice who wrote out the report of the tree for Mr. Glucina. The raiser's description is as follows:—

“Strong robust tree, inclined to upright, spurs freely, flowers mid to end of September. Good bold flower. Fruit ripe 20th January to 20th February. Colour marere red, generally, all over, but if anything partly coloured in spots, not striped as Albany.”

This, I believe, gives a very good description of it, but as I have not seen the fruit I am not in a position to confirm this. However, the trees reworked have made excellent growth, which is practically the same as Albany Beauty and Gravenstein. From the observations made it would appear to me that it spurs more freely and has rather bolder fruiting buds.

Mr. Glucina regrets that he had not called my attention to the tree early this season; as not having seen the fruit I cannot confirm any statements that have been made.

There are no photographs of the tree, but I am making close observations next season, and will try and get a photo of either the original branch or one of the grafted trees, and will then be in a position to give a description of the fruit.

NEW ZEALAND INSTITUTE OF HORTICULTURE.

REPORT OF THE EXECUTIVE COUNCIL FOR THE YEAR ENDED
31ST MARCH, 1932.

The tenth year of the Institute's existence is a record of steady progress in spite of the limitations imposed by the prevailing financial conditions.

Education.—At the end of 1931 the Institute ceased to receive applications for examination under Group B, so that now all future applicants



New Zealand Plume Grass (*Arundo conspicua*), Toetoe as hedge plant.



Red Beech Forest, Otago Lakeland.

Photo, Beken.



New Zealand Cedar (*Libocedrus plumosa*), 9ft. high, about 10 years old,
at Karori.



A. R. Stone.

must undergo the full course prescribed for Group A students as provided by the examination regulations. During the year arrangements have been finalised for examinations in fruit culture, and consideration is being given to similar provision for florists and seedsmen. The Examining Board's report deals fully with matters relating to education. The Executive desires to again record its high appreciation of the careful and effective service rendered in an honorary capacity by the members of the Board.

Journal.—The Institute's Journal has been in existence for three years, and though financial considerations at present restrict its issue to twice a year, it continues to fulfil an important function by recording the work of the Institute, furnishing horticultural articles of interest, and keeping in touch with the members. The Executive again heartily thank the Editor (Mr. W. R. B. Oliver), his committee, and the contributors for their valuable services.

Rules for Judging.—These have not yet been finalised, but it is anticipated that during the current year they will be available for the use of those concerned.

Loder Cup.—The third competition took place in connection with the National Flower Show, at Christchurch, in January, 1932, Mr. Henry Bennett, of Dunedin, again being the winner. In spite of the distance he had to travel, Mr. Bennett staged a very extensive collection of native plants, and staged them to excellent advantage.

Plant Recording.—During the year Mr. Mate Glucina, of Oratia, applied for the recording of a new variety of apple, "Oratia Beauty," a sport from "Albany Beauty." The application has since been granted. The Institute is still urging the Government to provide effective protection to the discoverers of new varieties of plants by setting up a Nomenclature Board with statutory powers to prohibit the sale of a plant under a name other than that adopted for it by the Board, and suggesting that the powers of the proposed Board be vested in the Institute.

Citrus Research.—Of the 1,000 citrus plants grown at Mr. Herd's nursery at Onehunga about 400 have been sold to various growers in the Auckland Province, a careful record being kept of each plant sold. The distribution of these trees should result in materially raising the quality of the citrus fruit marketed. Largely owing to the financial stringency it has not been possible to set up a permanent test area for the growing, under test conditions, of the various trees needed. It is hoped, however, that during the coming season satisfactory arrangements will be made for the establishment of a test area. The work has been carried on in collaboration by the Institute and the Department of Scientific and Industrial Research, the Department meeting the expenses involved.

Preservation of Native Bush.—The Department of Internal Affairs is continuing its work of killing out deer, and is seeking to establish markets for the skins. It is anticipated that these operations will eventually result in so reducing the number of deer as to eliminate the

serious menace they constitute to our native forests as well as to our primary industries.

Efforts have been made to secure from the Tourist Department leases of small areas on the shores of Lake Waikaremoana for the erection of cottages for the accommodation of anglers and deer stalkers. As reasonable facilities already exist the New Zealand Forestry League and this Institute have protested against the provision of further facilities that would tend to mar the beauty of the native bush in that locality.

Opotiki-Gisborne Road (Waioeka Gorge).—Representations have been made to the Government for the preservation of native bush in this vicinity, and it is anticipated that some substantial reservations will be made in the near future. The Auckland District Council is endeavouring to secure the collaboration of local interests to this end.

Waipoua Native Forest.—This area of about 40,000 acres contains the largest stands of kauri in existence (about 9,000 acres). The forest is controlled by the State Forest Service, which has established a Silvicultural Research Station and contemplates the removal of dead or mature kauri trees and the permanent scientific milling of the forest. As the kauri exists only in New Zealand in its native state, and as the cutting of the mature trees will involve the removal of the noblest specimens, the Institute is seeking to have this forest retained in its native state. Some valuable information was furnished by the Auckland District Council in this connection.

The Institute is urging the Government to reserve for scenic purposes all suitable areas of native bush not urgently required for other purposes. Since 1921 the State Forest Service has given consideration to the exclusion of strips of virgin forest bordering lakes, main highways, camping places, etc., when demarcating blocks of timber for sale.

The Government proposal, as an economy measure, to attach the State Forest Service to some other Department, was vigorously opposed by the Institute and other bodies, as it was felt that such a step would be detrimental to the best interests of our native forests. It is gratifying to know that this proposal appears to have been dropped. During the year six persons recommended by the Institute have been appointed as honorary inspectors under the Scenery Preservation Act.

National Botanic Gardens.—In view of the state of the public finances, it was considered undesirable to urge the establishment of a national botanic garden at present. At the suggestion of Mr. Tannock, of the Botanic Gardens at Dunedin, the recent annual conference agreed that the Institute should act as a clearing station for the distribution to New Zealand Superintendents of Reserves of lists of seeds and plants available in New Zealand for distribution by exchange. All Superintendents are urged to help to put the scheme into operation, as by this means our public gardens should be materially benefited.

International Conference on Genetics.—The sixth conference is being held at Geneva, N.Y., U.S.A., in August, 1932. The Institute was requested to assist in the provision of a fruit exhibit, but nothing was done as the U.S. law does not permit of the importation of fruit.

National Conference on Horticulture, at Christchurch.—This was held in Christchurch in January, 1932, and proved a great success. The following "national" bodies participated: (a) New Zealand Horticultural Trades' Association; (b) Horticultural Seedsman's Association of New Zealand; (c) Association of Directors of Parks and Reserves; and (d) the New Zealand Institute of Horticulture. As a part of the Horticultural Week, a National Flower Show was held in the King Edward Barracks, the "national" bodies mentioned collaborating with the Canterbury Horticultural Society and other local horticultural interests. The National Flower Show was very successful, over 12,000 persons visiting the display, and the financial results were very satisfactory. The next National Conference on Horticulture is to be held in Wellington in January, 1933. The "national" bodies concerned, and the Hutt Valley and Wellington Horticultural Societies have arrangements well in hand.

Dahlia Registration.—The Institute has undertaken the registration of new varieties of dahlias raised in New Zealand. It is also proposed to prepare a list of imported dahlias in commerce in New Zealand, adding thereto additional varieties imported and registered New Zealand seedlings.

Daffodil List.—So far efforts to arrive at an understanding with the National Daffodil Society of New Zealand in connection with the registration of new varieties raised in New Zealand have not been successful, but it is hoped that a satisfactory arrangement will be come to later.

National Flower Societies.—Arising out of some remits to the Christchurch Conference (1932) the question of the relation of the Institute to the formation of "national" flower societies has been referred to District Councils for consideration, with a view to securing uniformity of procedure.

Gardening Notes.—The Hawke's Bay District Council has arranged for the supply of gardening notes to the local newspapers, the remuneration for the service being devoted to the funds of the local District Council.

Labelling Native Trees.—With the object of encouraging the study of our native flora the Southland District Council undertook the labelling of native trees in a local reserve, and offered a prize for the best essay on the plants in the reserve. Such a plan might be applied with advantage in other centres.

President's Visit Overseas.—During the year our President, Mr. F. J. Nathan, visited Great Britain and Australia, and looked into a number of matters of interest to the Institute.

District Councils.—Most of the District Councils are actively engaged in furthering the work of the Institute in their respective districts, and the Executive is keenly appreciative of the effective work done.

Finance.—The continuance of the financial stringency rendered necessary further economies in several directions in order to avoid the undue depletion of the Institute's funds. In spite of the renewal of the Government's grant of £100 during the year, the period under review ended with a less favourable balance than the previous year. The financial assistance rendered by the Government under existing circumstances is much appreciated, as without it the Institute's position would be very difficult.

(For Annual Accounts see pages 84, 85.)

REPORT OF EXAMINING BOARD FOR THE YEAR ENDED 31ST MARCH, 1932.

Classes for Students.—Technical College classes are in operation in Auckland and Christchurch, and one is expected to commence at Dunedin with the second term. In Wellington the Workers' Educational Association classes were held last winter as usual, and will be continued next. In Hawke's Bay horticultural classes were held last winter, and during the coming winter it is intended to hold debates on horticultural subjects. The question of correspondence classes is still engaging the attention of the Board, but so far no satisfactory arrangements have been made.

Examination Papers.—The written papers set at the half-yearly examinations of the Institute are afterwards published in the Institute's Journal, separates being run off for sale to students who appreciate these aids to their studies.

Examination Regulations.—Some amending rules were issued on 21st October, 1931, providing, *inter alia*:—

- (a) Students for *certificates* in horticulture *may*, after one year of recognized practical horticultural training, be permitted to sit for the *theoretical* portion of the examination only, the practical portion being taken at the end of the two years' period prescribed.
- (b) If the student satisfies the Board that he intends to leave the Dominion for the purpose of pursuing his horticultural studies abroad he *may*, after one year of qualifying service, be permitted to sit for both the theoretical and practical portions of the examination.
- (c) Agriculture is now accepted as an alternative subject for either Chemistry or General Science.
- (d) No candidate may now be examined under Group C whose application was not received by the end of 1930, or under Group B whose application was not received by the end of 1931.

Qualifying Garden Service.—As some students find it very difficult to obtain employment in a garden providing fully qualifying service for the Institute's examinations, the Board decided that it will not debar a student from admission to examination merely because the garden in which he is employed is not up to the standard approved, provided he is taking full advantage of other local facilities and that he shows by his diary and other means that he is making satisfactory progress in the practice of his profession.

Examinations in Fruit Culture.—The annual conference of orchardists having accepted the Institute's proposals, rules governing the examinations have been adopted, and several candidates have already applied for examination. The rules have been published in the "New Zealand Orchardist," and the New Zealand Fruitgrowers' Federation Ltd. kindly ran off a supply of separates containing the examination rules.

Examinations for Florists and Seedsmen.—Negotiations are being carried on regarding these, and something definite may eventuate at the next National Conference on Horticulture.

Examinations.—The following is a summary of the results of the examinations conducted by the Institute in June and November, 1931:—

<i>Examination</i>	<i>Complete Pass.</i>	<i>Partial Pass.</i>	<i>Failure.</i>
Preliminary	3	3	—
Intermediate	4	—	—
Diploma	3	—	—

One of the Diploma candidates was examined in Ambler, Penn., U.S.A., the written papers being set and marked in New Zealand. This candidate (Miss Watt) previously obtained the Institute's Senior Certificate in Horticulture when resident in New Zealand. It is the first case of a candidate for the Institute's examination being examined outside New Zealand.

Diplomas and Certificates Issued.—Appended to this report is a list of Diplomas and Certificates issued, after examination, in addition to those shown in previous annual reports. The following is an analysis of the list:—

	<i>Men.</i>	<i>Women.</i>	<i>Total.</i>
Diploma in Horticulture	2	1	3
Senior Certificate in Horticulture	3	1	4
Junior Certificate in Horticulture	3	—	3
	<hr/> 8	<hr/> 2	<hr/> 10

<i>Total Issued to Date.</i>				<i>Men.</i>	<i>Women.</i>	<i>Total.</i>
Diploma: Without Examination	....	....	....	167	3	170
Group C Examination	....	....	....	26	—	26
Group B Examination	....	....	....	6	2	8
Equivalent	....	....	....	1	—	1
Certificates: Junior	....	....	....	8	2	10
Senior	....	....	....	5	2	7
				213	9	222

Examining Board.—Mr. W. H. Rice has been appointed a member of the Examining Board, representing the Auckland District Council.

Thanks.—The Board extends its hearty thanks to the gentlemen in the four centres who conducted the oral, practical, and written tests at the half-yearly examinations. The services have been rendered in an honorary capacity, and have been a very important factor in the examination of the candidates. To Messrs. A. H. Cockayne and P. Black the thanks of the Board are especially due for the time and care devoted to the setting of the written tests and the examining and marking of the papers submitted by the candidates.

List of Diplomas and Certificates granted under the New Zealand Institute of Horticulture Act, 1927, since the issue of the 1930-31 annual report (all granted under Section 4 of the Act):—

Diploma in Horticulture.

Burgess, Charles Gordon; Christchurch.

Mansfield, Brendan Percival; Napier.

Watt (Miss), Margaret Elspeth; Ambler, Penn., U.S.A.

Senior Certificate in Horticulture.

Hughes, Stanley Rowland; Wellington.

MacKenzie, John Gretton Carr, Dunedin.

Martin (Miss), Bina Elizabeth; Dunedin.

Nodder, Cyril Robert; Howick.

Junior Certificate in Horticulture.

Allan, Ferdinand Sebastian; Auckland.

Balch, Robert Wilson; Christchurch.

Boothby, Milford Robert; Dannevirke.

EXAMINATION PAPERS, JUNE, 1932.

PRELIMINARY EXAMINATION (Syllabus No. 1).

HORTICULTURAL BOTANY.

1. Distinguish between roots, stems and leaves, both with regard to structure and function.
2. What is meant by germination, and what are the conditions necessary to bring it about?
3. What is cambium, where is it found, and what significance has it with regard to plant growth?

4. How is starch formed by plants?
5. Describe the main features of the family Liliaceae, and name six genera belonging to that family.
6. Describe the process of fertilisation.
7. What is meant by conidium, spore and mycelium? Describe any fungus disease affecting potatoes.
8. Describe in technical language the botanical specimen (root, stem, leaf and flower) supplied by the Supervisor.

Note.—*Six only* of the above questions are to be answered, of which the last is *compulsory*.

PRELIMINARY EXAMINATION (Syllabus No. 1).
HORTICULTURAL ZOOLOGY.

1. Describe the general characteristics, life history and habits of (a) a slug, (b) a millepede, and (c) an earthworm.
2. Describe the structure of the larval, pupal and adult stages of (a) a beetle (Coleoptera), and (b) a plant bug (Hemiptera).
3. Give a general account of scale insects and the various methods that are adopted in their control.
4. What is the difference between a contact and a poison insecticide and against what classes of insects are each used?
5. What is meant by biological control, and what is meant by cultural control? Give instances of each.
6. What do you know about the fumigation of insects, what materials are used, and what precautions have to be taken?

Note.—All of the above questions are to be answered.

INTERMEDIATE EXAMINATION (Syllabus No. 2).
PRINCIPLES OF HORTICULTURE.

1. What are all the factors you would consider in arriving at an opinion of the fertility of a soil?
2. What is the effect of light on the growth of plants? Name instances where it is (a) an advantage, (b) a disadvantage, and (c) unnecessary.
3. What is potash? In what forms is it used in horticulture as a manure? What is the special use of each and its effect on plants generally?
4. Describe the effects of cultivation of the soil—biological, chemical, physical, etc. When is it an advantage and when otherwise, and why?
5. Under what circumstances can trees, shrubs and herbaceous plants respectively be pruned with advantage, and what is the effect?
6. Describe a suitable rotation for vegetable crops, and give reasons for the arrangement.
7. What are the different methods of propagating plants by grafting, and when may each be used with advantage?

8. What are the respective advantages and disadvantages in the practice of horticulture on the west coast and east coast districts of these islands?
9. Describe an attractive association of trees and shrubs suited to an exposed place in the locality where you reside, taking full advantage of the conditions of soil and climate?

Note.—*Any six only* of the above questions to be answered.

INTERMEDIATE EXAMINATION (Syllabus No. 2).

THE PRACTICE OF HORTICULTURE.

1. Name the different motor implements used in horticulture with which you are acquainted. State your preference and give reasons.
2. When and how would you break in grass land for horticultural cropping? What difficulties may be expected, and how would you deal with them?
3. Describe the methods and state the season for propagating shrub plants by means of cuttings.
4. Describe fully the treatment that should be given to pear and apple trees making vigorous growth when good crops are desired?
5. When and how should ornamental shrubs and climbers be pruned? Describe typical examples.
6. Describe economical manurial treatment for (a) a light soil, and (b) a heavy soil, to maintain a high state of fertility.

Note.—*Any three only* of the above questions to be answered in addition to *any three only* of the questions on special subject nominated.

PROFESSIONAL (DIPLOMA) EXAMINATION (Syllabus No. 3).

THE PRINCIPLES AND PRACTICE OF HORTICULTURE.

1. When and how should horticultural crops be fed? What are some of the common mistakes in this treatment?
2. What are the advantages and limitations of a soil analysis?
3. Describe the structure and growth of fungus and bacterial plants and their beneficial and injurious action amongst crops.
4. What are all the factors to be considered when prescribing manurial treatment before planting?
5. Describe the method of propagating hard-wooded plants by means of budding, including the period, condition of stocks and buds and treatment after the operation.
6. When and how should ornamental shrubs and climbers be pruned? Describe typical examples.
7. Write a short essay on shelter planting in exposed places, describing arrangements of plants that will be economical, attractive and effective for different purposes.
8. How can the production of walnuts and chestnuts be improved in this country? What conditions are most suitable? Describe the layout and management until the trees come into bearing.

Note.—*Any six only* of the above questions to be answered.

PROFESSIONAL (DIPLOMA) EXAMINATION (Syllabus No. 3).

Special Subject: THE FLOWER GARDEN IN ALL ITS ASPECTS.

1. Name four sorts of biennial flowering plants and give brief notes on each, stating (a) when seed should be sown, (b) when plants should be placed in flowering quarters, and (c) subsequent treatment.
2. Amongst rock plants there are those that require a "scree" or "moraine" medium to grow in. State how this is formed, and name six "scree" loving plants.
3. How are the following plants propagated: (a) Double Gypsophila, (b) Phlox (perennial or alpine), (c) Asters, (d) Paeony (herbaceous and tree varieties)?
4. Name six varieties of Lilies, and state what you consider would be ideal conditions and soils for each variety enumerated.
5. Give a list of twelve non-lime loving rock plants.
6. Give three combinations of flowers that harmonize as to colour and time of flowering suitable for the herbaceous border.
7. Name six varieties of the modern Brooms, *or* twelve varieties of new Roses, with brief notes on each.

Note.—*Any six only* of the above questions to be answered.

PROFESSIONAL (DIPLOMA) EXAMINATION (Syllabus No. 3).

Special Subject: GLASSHOUSE MANAGEMENT.

1. Choose either Tomatoes or Cucumbers, and describe your method of growing from seed to maturity.
2. Explain the principles governing the heating of glass structures with hot water. Illustrate your meaning by diagrams.
3. Explain how you would fumigate glasshouses with (a) nicotine, and (b) Cyanide of Potassium. Give quantities, and state for what pests the respective preparations would be used.
4. Give particulars of bulb "forcing," having regard to time of potting, soil and treatment before and after bulbs are placed under glass. Name suitable varieties.
5. Explain fully your method of ventilating glasshouses, with special reference to Tomato, Cucumber and Grape houses.
6. Explain your method of grafting the following plants under glass: (a) Rhododendron, (b) Clematis, (c) Conifers.
7. Choose either Begonia (tuberous) or Cyclamen, and give a detailed description of how you would grow them from cuttings or seed to flowering stage.
8. What are the advantages of pricking out small seedlings twice, *or* explain your method of seed sowing under glass.

Note.—*Any six only* of the above questions to be answered.

NEW ZEALAND INSTITUTE OF HORTICULTURE (Inc.)

Statement of Receipts and Payments for year ended 31st March, 1932.

RECEIPTS.						PAYMENTS.							
	£	s.	d.	£	s.	d.		£	s.	d.	£	s.	d.
Balance brought forward; 1st April, 1931							Salaries:						
Subscriptions:—						225 10 3	Dominion Secretary	135	0	0			
Individual: Arrears	23	11	0				Dominion Organiser	45	0	0	180	0	0
Current	155	18	3										
In advance	5	6	3				Travelling Expenses:						
				184	15	6	Dominion Secretary	3	19	1			
							Dominion Organiser	0	10	0	4	9	1
Affiliated Societies, etc.													
Arrears	3	3	0				District Council Capitation Fees:						
Current	37	16	0				Auckland	13	10	5			
				40	19	0	Hawkes Bay	2	0	0			
						225 14 6	Palmerston North	2	17	6			
Fees: Diploma				2	2	0	Canterbury	3	10	9			
Examination				27	6	0	Otago	5	0	0			
						29 8 0	Southland	5	8	9	32	7	5
Publications:													
Journal sales				1	4	0	Annual Conference:						
Examination Papers				0	5	0	Printing, etc.				3	6	6
N.Z. Horticultural Judges Register				0	2	0							
R.H.S. Judging Rules				0	7	6	Publications:						
Daffodil List				0	1	6	Institute's Journal (1 issue)	25	8	9			
						2 0 0	Banks Lecture Supplement	3	18	3			
Government Grant						100 0 0	Rules for Judging	5	8	0			
Interest (Post Office Savings Bank)						8 1 2	R.H.S. Daffodil Lists	0	11	0	35	6	0
							Refunds of Examination Fees				6	18	6

		Office Expenses:		
		Allowance to Dominion Secretary for rent and equipment	50	0 0
		Printing	8	8 0
		Stationery	5	15 3
		Stamps	27	17 5
		Sundries	3	18 10
				95 19 6
		National Flower Show (Christchurch, 1932)		9 17 3
		Balances at 31st March, 1932:		
		Post Office Savings Bank	209	7 11
		Bank of New Zealand	8	1 9
		In hand (Dominion Organiser)	5	0 0
				222 9 8
				<u>£590 13 11</u>
		<u>£590 13 11</u>		

Statement of Affairs as at 31st March, 1932.

LIABILITIES.		ASSETS.	
	£ s. d.		
Endowment Fund	63 0 0	Office furniture	7 5 0
Subscriptions received in advance	5 6 3	National Flower Show (Christchurch, 1932), share of surplus	68 16 8
Diploma and Examination Fees in suspense	8 8 0	Balances:	
Sundry Creditors	25 18 3	Post Office Savings Bank	209 7 11
Balance	195 18 10	Bank of New Zealand	8 1 9
		Cash (Dominion Organizer)	5 0 0
			222 9 8
	<u>£298 11 4</u>		<u>£298 11 4</u>

Outstanding subscriptions are excluded from the Statement.

A. R. STONE, F.P.A. (N.Z.),

Treasurer.

I have examined the books, accounts and vouchers of the N.Z. Institute of Horticulture, Inc., and certify that the Statement of Receipts and Payments is in accordance with the books, and that the Statement of Affairs is correctly drawn up so as to reveal the true position of the Institute at 31st March, 1932.

18th May, 1932.

S. G. McINTOSH, B.Com., A.R.A. (N.Z.),

Hon. Auditor.

INSTITUTE NOTES.

National Conference on Horticulture.—This will be held in Wellington, commencing on Monday, 23rd January, 1933, and continuing until the following Friday, under the combined auspices of the New Zealand Horticultural Trades' Association, Horticultural Seedsmen's Association of New Zealand, the Association of Directors of Parks and Reserves, and this Institute. In connection with the Conference there will be held, at Wellington, on Thursday and Friday, 26th and 27th January, the third New Zealand National Flower Show. The Hutt Valley and Wellington Horticultural Societies are co-operating in this. Record entries have been promised, and it is anticipated that this show will be a wonderful success. A Show Schedule is enclosed with this issue.

Rules for Judging at Horticultural Shows.—These have now been finalized, and will be ready for issue shortly. They will prove of great assistance to judges and exhibitors at Horticultural Shows.

Daffodil Registration.—It is pleasing to record that uniformity of action with regard to daffodil registration has been reached with the National Daffodil Society of New Zealand. The National Daffodil Society is now affiliated with the Institute and will be the recognised registering authority for Daffodil names, and all registrations will be forwarded to the Royal Horticultural Society through the Institute. Institute members are now eligible to compete at the National Daffodil Society's Shows. The Institute has the nomination of one member on the Executive of the National Daffodil Society, and also on its Certification Committee (Mr. T. Waugh).

Secretary.—Mr G. S. Nicoll has been appointed Secretary to the Institute in succession to Mr. A. R. Stone.

NEW ZEALAND INSTITUTE OF HORTICULTURE (INCORPORATED)

Patrons: Their Excellencies LORD BLEDISLOE, Governor General, and
LADY BLEDISLOE.

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

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

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

Dominion Organiser: GEO. A. GREEN, 16 Aratonga Avenue, One Tree
Hill, Auckland.

Hon. Secretaries of Local District Councils:

Auckland: N. R. W. Thomas, 33 Customs Street, West.

Hastings: W. M. H. Diamond, 611 Nelson Street.

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

Nelson: E. R. Neale, P.O. Box 114.

Christchurch: C/o J. N. McLeod, 108 Paparoa Street, Papanui.

Dunedin: Geo. H. McIndoe, P.O. Box 445.

Invercargill: G. M. Broughton, P.O. Box 91.

Membership:

Individuals: 12/6 per annum.

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

Journal (half-yearly):

To Members: Free.

To Non-members: 5/- per annum (in advance).

Single Copies: 2/6.

Hon. Editor: W. R. B. Oliver, M.Sc., Dominion Museum,
Wellington.

Advertising Rates:

These will be supplied on application.

Examinations:

Examinations are held half-yearly (June and November).

Students desiring examination should make early appli-
cation to

DOMINION SECRETARY,
N.Z. Institute of Horticulture,
P.O. Box 1237, Wellington.