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*Dominion Secretary:*

K. J. Lemmon, A.P.A.N.Z., A.C.I.S., Suite 1, First Floor,  
British Sailors' Building, 10 Brandon Street, Wellington.

Correspondence and articles for publication should be addressed to: The Editor, "New Zealand Plants and Gardens," Journey's End, Paraparaumu (phone 154). All enquiries concerning advertisements should be addressed to the Dominion Secretary.

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C O N T E N T S

	Page
FORGOTTEN FAVOURITES: The Editor - - -	233
PALMS AND THEIR CULTURE IN NEW ZEALAND (IV): Percy Everett, N.D.H.(N.Z.) (Illustrated) -	234
THE BANKS LECTURE: The Influence on New Zealand Gardens of the Introduction of South African and Aus- tralian Plants: W. R. Stevens - - - - -	239
CAPE HEATHS: R. H. Long, A.H., R.H.S. (Illustrated) -	250
AUSTRALIAN PLANTS IN NORTHLAND: Hilda Given (Illustrated) - - - - -	254
NOTES FROM THE CHRISTCHURCH BOTANIC GARDEN: L. J. Metcalf - - - - -	256
ANNUAL REPORT OF THE DOMINION COUNCIL -	258
THIRTY-FIFTH ANNUAL CONFERENCE (Illustrated)	262
EXAMINATIONS - - - - -	275
BOOK REVIEWS - - - - -	279

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# NEW ZEALAND PLANTS AND GARDENS

The Official Journal of the Royal New  
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## FORGOTTEN FAVOURITES

A very great change has taken place in gardening over the past century. A hundred years ago the cult of the florist's flower had reached its zenith and we have not seen its counterpart since. But let me explain. A florist in those days did not signify a person who dealt mainly with floral arrangements. He was a grower and plant specialist. He would engage in elaborate culture for auriculas, fuchsias, show dahlias, the wonderful double ranunculi, the fascinating bizarre tulips, the double primroses and polyanthus and other plants that today are little more than memories. These flowers reached the height of their popularity at a time when Robert Fortune and other botanists were sending newly discovered plants to Europe from Asia. Gardeners, being only human and therefore fickle, concentrated practically the whole of their interests on these new plants from the East. Old favourites of proven merit were rooted up and cast on one side to make space for some new and, as yet, untried newcomer. So by the end of the first decade of this century many of these good old plants were rarely seen in gardens, and the intensive drive for food production during the first world war saw something that very nearly approached extinction.

The period between the two world wars witnessed the wane of the conservatory and the more esoteric forms of gardening, with hardy plants and shrubs coming to the fore. That this was a good thing for the majority of gardeners there can be little doubt, but there can be no excuse for the folly that caused so many of the older garden plants to be destroyed. Many of the new introductions from Asia and the hybrids derived from them have undoubtedly proved most valuable and our gardens would indeed be poor without them. But there were also many that, although of botanical interest, possessed little attraction as garden plants and ultimately met their inevitable fate.

By the middle of the last decade, a new generation of gardeners had arisen and when fuchsias, that had been neglected for over sixty years, were exhibited at one of the London shows they were greeted with all the enthusiasm that was usually accorded to a new and sensational genus. And yet these fuchsias had been favourites a century before. Roses of the *gallica*, Bourbon, Noisette, Damask and other groups also returned to public esteem as it became realised that they were admirable shrubs, quite different in character to the hybrid teas,

floribundas and others of a modern type. Old varieties of both fuchsias and roses are still being found and revived but some of the old plants appear to have passed from human ken. Perhaps in some old forgotten garden may be found plants of the double blue, white and pink *Anemone hepatica* or the wonderful double ranunculi you can see portrayed in the still life works of the old masters, but they have never come into circulation and the chance of them ever being found is remote.

A search of some of the older gardens, particularly those of the South Island of New Zealand, might well prove interesting. Some of the early settlers of about 1840 are known to have brought with them many a plant that was valued at that time. Quite a number of the old roses have been found in the older gardens, also a few of the double primroses but, so far, I have had no news of the double laced polyanthus or the double auricula and other similar plants that are portrayed so vividly in the old garden books.

G. A. R. PHILLIPS,  
Editor.

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## PALMS AND THEIR CULTURE IN NEW ZEALAND

PERCY EVERETT, N.D.H. (N.Z.), Assistant to Horticultural Superintendent, Department of Agriculture, Auckland.

### (PART IV)

This is the concluding part of a series of articles under the same title that have appeared in the three previous issues of "New Zealand Plants and Gardens." In the earlier articles the author dealt mainly with usefulness, climatic range, propagation, transplanting, culture, distribution in New Zealand and characteristics of species.

#### Palmate Palms

The eight species growing outdoors in New Zealand that have palmate (fanlike) leaves vary greatly in form and size. They vary in height at maturity from about 7ft. to 70ft. Some are amongst the hardiest palms known; whereas others are relatively frost tender and are readily injured by wind.

*Trachycarpus excelsa* H. Wendl. (*Chamaerops excelsa*), (*C. fortunei*). In many countries this species is grown extensively both indoors and as garden specimens. It is very hardy and is reported to withstand without injury a temperature of 22 degrees Fah. There are several types of *T. excelsa*. The trunks of some are densely matted with the fibrous base of old leaf sheaths whereas another type has a comparatively smooth trunk. The leaves are fairly rigid and there are no spines. The rate of growth is rapid and it is moderately tolerant of wind and unfavourable soil conditions. Specimens that are not more than about 10ft. high growing in sheltered positions are distinctly ornamental, but with increase in age and height they become less attractive and should be removed.

*Chamaerops humilis* Linn. This comparatively small fan-leaved palm is similar in many ways to *T. excelsa*, being extremely hardy in every way. It differs from the latter mainly in that it produces offshoots

at ground level, the leaf stalks are armed with many hooked spines and the tree seldom attains a height of more than 8ft. This is the only palm native to Europe. The rate of growth is slow and even when kept to a single stem, this palm does not become tall and unsightly. There is another type of *C. humilis* that is less common and which grows to a height of about 3ft. only. The leaflets are distinctly drooping and the plant generally is less attractive than the taller type.

*Washingtonia filifera* var. *robusta* (*Brahea robusta*) (Cotton Palm). The tallest palms in New Zealand are of this species and many noble specimens are to be found in public parks and private gardens at Auckland and Napier and several other towns. Avenues of these stately palms are to be found in many other countries. The trees, while young, produce a long, white, cotton-like filament between the leaflets thus accounting for the species being sometimes referred to as the Cotton Palm. The leaves are large, the leaf stalk is armed with many thorns, and the leaflets are somewhat drooping, which adds to the beauty of the trees when young. Owing to the great height ultimately attained the species is not suitable for planting in small residential sections unless removal is planned 10 to 15 years later.

The genus *Livistona*. There are three different species of this genus thriving outdoors in New Zealand and all three make magnificent garden specimen trees. This genus is said to be grown overseas as garden specimens to a greater extent than all other fan-leaved palms. Judging by the few specimens in this country it is deserving of the highest commendation.

*L. chinensis* R.Br. (*Latania borbonica*) A comparatively low growing palm seldom exceeding 12ft. in height. The blade of the enormous leaves is 4ft. to 6ft. in diameter and the leaflets are extremely drooping. Its natural beauty is increased by the large number of leaves comprising the massive crown. It is a popular garden species in many overseas countries. There are many short thorns on the leaf stalks.

*L. australis* Mart. (*Corypha australis*). Although this species is reported overseas as growing from 40ft. to 80ft. high, the few healthy specimens in New Zealand that are estimated to be more than 40 years old are not more than about 12ft. high. Their most outstanding feature is their huge, stiff, leathery leaves. Even the leaflets are completely rigid. There are no spines. Large clusters of shiny, black seed, each  $\frac{3}{4}$ in. in diameter, are borne immediately beneath the lowest leaves and hang downwards resting against the shiny green trunk. The leaves are not injured by light frosts. The absence of thorns, resistance to cold temperatures, and restricted height make this species particularly suitable for garden culture in New Zealand.

*L. humilis* R.Br. The leaves are smaller than those of the other two *Livistona* described above, but are by no means small. They are exceptionally well separated, which gives the crown an open appearance and adds to its elegance. An unfortunate feature of this species is the row of comparatively long and hooked spines on either side of the leaf stalk.

The genus *Sabal*. There are many species and varieties within the genus which are endemic to parts of North and South America, but only two species are known to have become established in New Zealand. These attractive, fan-leaved palms are extensively grown as shade and avenue trees in the southern states of U.S.A. and are thriving with equal success in various parts of the North Island of New Zealand.

*Sabal palmetto* Lodd. (Cabbage palmetto). The comparatively thin, smooth trunk is crowned with a massive head of large leaves. The leaflets, when mature, are partially drooping, which enhances the beauty of the foliage. Trees do not rapidly tower to a great height, as is evidenced by several known specimens in Auckland believed to be about 45 years old and in the vicinity of 30ft. high. The foliage is not injured by light frosts, but may become extensively damaged by wind when grown in exposed situations.

*Sabal texana* Becc. (Texas palmetto). Similar in most ways to *S. palmetto*, but readily distinguished from the latter by its shiny, reddish-brown trunk; the leaflets are also more rigid. The blade of the leaf is about 3ft. in diameter and the leaflets meet at the leaf stalk, which results in a completely circular "fan." The leaf stalk is exceptionally long, in some instances more than 9ft. As the blade further extends the length of the leaf, the spread of a single-trunk tree can exceed 20ft.

*S. texana* produces offshoots freely from near ground level, but such growth is readily eliminated in its early stages of development. Although many short spines are produced on the leaf stalks of both *Sabal* species these are of little consequence.

*Rhapis flabelliformis* L'Her. (Cane Palm). A relatively hardy fan-leaved palm. It is one of the few palms that produce suckers freely from below ground level. The suckers are generally allowed to develop to become a compact clump. The species is best suited for growing in large tubs. The rigid, vertical, cane-like stems grow to a height of about 6ft. and are from 1 inch to 1½ inches in diameter. The plant is dioecious and is distinctly attractive, especially when grown in partial shade.

### Palm Species Growing Indoors

In addition to the palm species listed in the foregoing there are others growing indoors in New Zealand. Specimens of most of these species are to be found in the tropical house in the Auckland Domain. As relatively few of these palms are grown in this country, only a few brief comments on each have been supplied.

*Chrysalidocarpus lutescens* Wendl. (*Areca lutescens*). The slim trunk and pinnate leaves are a light shade of green tinged with yellow. The leaves are relatively long and gracefully arched. As many offshoots are produced at ground level, it is generally grown as a clump.

*Cocos weddelliana* Wendl. This palm closely resembles *Phoenix roebeleni*. The small, dainty, pinnate leaves are gracefully recurved, which makes the species one of the most suitable for pot culture.

*Carludovica palmata* Ruiz. and Pav. A stemless species with palmate leaves that grow to a height of about 4ft. The plant suckers freely and requires relatively warm growing conditions throughout the year. The panama hat is made from the leaves of this species.

*Arenga saccharifera* Labill. The species has pinnate leaves and the ends of the leaflets have a jagged, cut-off appearance. It requires tropical growing conditions.

### Diseases And Pests

Palms are remarkably free from attack by diseases or insect pests. There is but one recorded instance of a plant disease attacking a palm tree in New Zealand. In this case many dark brown, circular spots about  $\frac{1}{4}$  inch in diameter were formed on the leaves and these were surrounded by lighter brown rings. The health of the plant was not seriously affected, but the spotting detracted from its appearance. The disease has not so far been identified. It is suspected that this disease is a species of fungus which could be readily controlled by spraying or sponging affected leaves with summer strength bordeaux mixture. Insect pests of consequence are confined to several species of scales and mealy bugs. The palm scale (*Eucalymnatus tessellatus*) may be found on palms grown indoors and occasionally on garden specimens. The insects, when mature, are flat, about one sixth inch long and a dark colour. Several other species of scale insects, as yet not identified, have been observed on both indoor and outdoor grown palms. Control on indoor plants is secured by wiping the individual leaves with a soft oily cloth. One part of summer spraying oil mixed with 49 parts of water is suitable for the purpose and will give good control of the pest and cause no serious injury to the foliage. Care should be taken to completely wipe both upper and lower surfaces of every leaflet, as the young scale may be too small to be seen with the naked eye. For large specimens where hand wiping is not practicable the palms should be thoroughly sprayed with summer spraying oil using one part of the oil emulsion in 49 parts of water.

Control of mealy bugs (*Pseudococcus* Spp.) is readily secured by the control measures recommended for scale insects. Where mealy bugs only are troublesome, control can be secured by spraying or hand wiping plants with nicotine sulphate (40 per cent.) at a dilution of 1-600 (about 1 fluid oz. in 4 gall. water) plus 1 per cent. of summer spraying oil (about 7 fluid oz. in 4 gall. water).

### Selecting Species For Outdoors

In selecting species for planting outdoors due consideration should be given to the environmental factors in the area wherein the palms are to be planted. It should also be borne in mind that if a tall growing palm is selected it may ultimately require protection to a considerable height. The main factors influencing selection are:—

1. Severity of frosts to be expected in the area.
2. Severity and persistence of prevailing winds.
3. Space available for spread of foliage.

The importance of No. 3 above is better understood when it is realised that a well-grown *Phoenix canariensis* palm may have a spread of more than 33ft. and that for best effect most palms should be spaced so that there is a clear space around each equal to its spread; hence two such phoenix should be spaced at least 66ft. apart.

To further assist in selecting palms suitable for planting in any particular locality, the various species recommended for growing outdoors in New Zealand are grouped hereunder according to their natural ability to withstand cold temperatures and adverse winds without suffering serious injury. All of the foregoing species are flourishing outdoors in Auckland and many excellent specimens are thriving in more southern districts, including parts of the South Island. The listing of each group is in alphabetical order and in no way indicates preferences.

### Recommended Species of Palms

(a) For cold and/or exposed situations:—

*Chamaerops humilis*  
*Cocos yatay*  
*Phoenix canariensis*  
*Phoenix reclinata*  
*Phoenix rupicola*  
*Trachycarpus excelsa*  
*Washingtonia filifera* var. *robusta*.

(b) For situations where only light frosts and moderate winds are experienced:—

*Archontophoenix cunninghami*  
*Cocos plumosa*  
*Livistona australis*  
*Livistona chinensis*\*  
*Rhapis flabelliformis*  
*Sabal palmotto*  
*Sabal texana*

\* More frost tender than others in the same group, but will withstand considerable wind.

(c) For well sheltered and warm situations:—

*Hedyscepe canterburyana*  
*Howea belmoreana*  
*Howea fosteriana*  
*Phoenix roebeleni*  
*Rhopalostylis baueri*

### Cycads

There are a limited number of palm-like trees known as cycads growing outdoors in New Zealand, mainly in the warmer parts of the Auckland Province, although not strictly confined to this area. The cycads are of more than passing interest because they belong to one of the oldest groups of plant life known. Nearly all are the species *Cycas revoluta* Thunb., although there are odd specimens of other cycads including *Macrozamia reidlei* and, growing under glass, *Cycas circinalis*, Linn. and possibly several others.



Most cycads are extremely slow growing and few, if any, in this country possess a trunk more than 4ft. in height, although many are claimed to be more than 40 years old. Some species produce no trunk and in at least one other the trunk is produced underground. The feather-like, stiff leaves of *Cycas revoluta* are about 2ft. long and are arranged in precise circles around the crown of the plant. A new circle of leaves is produced each year. The trunk may be single, but in old trees several branches are common. This is a relatively hardy species and will not be injured by light frosts. Although in U.S.A. the tree is commonly called the "Sago Palm," it has little resemblance to the true Sago Palm and it is actually not a palm.

### Acknowledgments

Appreciation is expressed of the helpful advice freely given in the identification of species by the following: Mr. G. F. J. Filmore, Auckland (now deceased). Mr. Andrew Anderson, Napier; Mr. B. E. F. S. Collins, Dannevirke.

Thanks are also given to Mr. F. A. Powell, Henderson, for advice on cultural methods.

### References

Free reference has been made to the following publications:

"Standard Cyclopedia of Horticulture," 1947, by L. H. Bailey.

"Native and Exotic Palms of Florida," by Harold Mowry.

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## THE BANKS LECTURE.

### The Influence on New Zealand Gardens of the Introduction of South African and Australian Plants.

W. R. STEVENS (*Wanganui*)

(*In the course of this lecture Mr. Stevens preceded the sections dealing with Australian and South African plants with a series of excellent coloured slides.*)

I think it would be appropriate in commencing this lecture to reflect a little about the man whose name this lecture commemorates—Sir Joseph Banks. He was known as the greatest gardener of his day and spent the major part of his life in collecting and introducing plants new to horticulture. Not only was he an exceptional botanist, but he was that rare combination, botanist and gardener. It is indeed not common to find a botanist who is concerned with the horticultural attributes of a plant, and this in a way, explains why this man had such an influence on horticulture during the eighteenth century. We know he was no armchair scientist, because he accompanied Captain Cook on three of his voyages to Australia and New Zealand, and he was the discoverer of many of our own native plants. So it is fitting that we perpetuate his name by this annual lecture and endeavour to honour his memory by researches in new plants. Since his time, many parts of the world have been botanically explored, but most of the collecting expeditions have been confined to China and Japan, so it is natural that plants from these two countries have formed the backbone

of our gardens in New Zealand. In the main our conditions are ideal for these plants. They are hardy and used to high rainfall. As a consequence we have found them fairly easy to grow. We have only to mention such genera as rhododendrons, camellias, magnolias and viburnums to realise the influence that these expeditions have had on New Zealand gardens. But since about 1920 there has been a noticeable change in our plantings and the accent is no longer on Chinese and Japanese plants. We have only to consult some of our nurserymen's catalogues to realise that more and more plants are being offered which are native to Australia and South Africa. This might be due to several reasons. We may have desired a change of plant diet, we may have desired more colour, or we may have simply followed the lead of many nurserymen who know we shall buy everything new they offer.

Personally I am inclined to the idea of a change of diet. Many of us have become satiated with the principal genera introduced from China and Japan and, moreover, we have found that soil in many of our gardens does not retain enough moisture in the summer to grow these plants well. So the advent of colourful plants from Australia and South Africa, that will do well in dry conditions, has had an immediate effect. The ordinary gardener breathes a sigh of relief when he finds that these plants do not require watering in summer. There are, of course, other factors which influence our choice. An important one is the fact that many do not grow very large and are, therefore, admirably suited for small gardens. Also the great majority flower at an early age, there is a large range of colour and a diversity of form which makes them extremely interesting — in fact exciting. We have only to look at some of our beach settlements to see the effect of African composites, the gazanias, arctotis, dimorphothecas and so on. Because the coastal conditions suit these plants, there are no cultural difficulties. The average gardener is quick to recognise this and accordingly takes more interest in his garden. With our extensive coastline, it is obvious that the number of coastal gardens will continue to increase, and with this increase will come a demand for more and more colourful plants of easy culture. Where frosts are not too severe, plants from the Cape are ideal for this purpose and I think we should conduct an intensive research programme in order to extend the range of plants which could be grown under those conditions. I would go further and should not only consider it a duty, but a privilege to further stimulate the awakening gardening interest in our coastal population.

Now, in theory, we should be able to grow any plant which occurs in approximately the same latitude as ours but in practice it does not work out as simply as that. We can amass all the relevant data of a plant's habitat — its altitude, its rainfall, its type of soil, even its pH. and do our best to emulate all these conditions and still fail to grow it successfully. The obverse can also apply — we can import plants from conditions entirely foreign to our own and to our surprise they are an immense success. From this we learn that the one way, in fact the only way, to find out is by trial and error. Sometimes we learn only too well and too late. For example, we have oxalis and

homeria which have proved such a curse in many gardens and pastures and have exerted, not an influence, but an impact, on us. Why are these particular plants so happy in our conditions? Is it that there is a factor in the metabolism of these plants which is upset by our climate and soil, or is it that there is a factor in their native environment which prevents them from multiplying so rapidly there? We have a parallel example in animals in the way the Australian opossum has behaved after its introduction into this country. The case of the oxalis is particularly exasperating in view of the fact that in Cape Town gardens they have difficulty in growing many of the species. In view of the way that oxalis has rampaged through this country, one could be tempted to express the view that we should not import any more plants from South Africa. But then we think again, and remember to look at our large expanses of Broom and Gorse and Blackberry, and we realise that South Africa is not the only culprit. Perhaps I should not put it quite like that, because the real culprit is the gardener who imports these plants without realising the potential danger of any plant which increases rapidly. Here again we have the anomaly that some plants and bulbs are perfectly safe in certain types of soil, while in other types they are a menace.

May I say here, that I have had quite a lot of experience with importing South African native bulbs and have been forced to destroy several species of romulea and even ixias, simply because they became too happy with me — in other words, a potential menace. On the other hand there are many Australian and South African plants that we have not been successful in growing and I think this has been due to several misconceptions. In many parts of these two countries, the rainfall is not only low, but occurs over a very short period and because plants in those areas continue to survive and reproduce, does not necessarily mean that they prefer those conditions. And that is maybe where we fall down in our supposition that because a plant is used to a low rainfall, we should, therefore, try and emulate this when we introduce it to our gardens. This has been proved a false premise in many cases. Even in my own garden I have numerous plants which, in their native habitat do not on an average, get more than 15 inches rainfall and yet do splendidly with an annual rainfall of 35 inches. But, this is only possible by giving these plants very sharp drainage. This aspect of culture, viz. drainage, is extremely important, because I am quite sure that we have failed with many good plants, through neglecting it, or not realising its significance.

Now, the earlier introductions of Australian plants to our gardens, were, in the main confined to eucalypts and acacias and as there were very few professional seed collectors at that time, the range of species did not amount to very much. In fact, they offered just what was handy to collect, and it wasn't until after 1920 that several collectors saw possibilities in some of the more uncommon items. Two of the most notable of these collectors were Staer, who operated from Blackheath in the Blue Mountains, and Steedman who commenced in Perth. These two men collected assiduously and their influence is reflected

very strongly in Wanganui — due mostly to the activities of the Wanganui Beautifying Association. Steedman, in his search for seeds travelled many hundreds of miles and was responsible for introducing many new species. He was the first man to offer us seed of *Beaufortia sparsa*, *Agonis juniperinus* and *Pimelea physodes*, and many other items of real horticultural value. But probably the plant which has had the greatest impact on our gardens is the Scarlet Flowering Gum, *Eucalyptus ficifolia*. In this city alone, you will find hundreds of specimens all growing splendidly and extremely happy. It has provided a dominant note in our summer flowering plants and will be found growing in most parts of New Zealand where frosts are not too severe. In fact, it has become so much a part of our horticultural landscape that we accept it as normal and are inclined to take it too much for granted.

But, supposing we did not have this plant or it became subject to the disease such as has occurred in Western Australia — what would we do? The late Ernest Wilson, one of the greatest plant collectors of the world, once said that “of all the plants in the world, none have impressed me as much as the Scarlet Flowering Gum.” This is high praise from such a discriminating plantsman, but I do not think we in New Zealand need to be reminded of its beauty. The glorious pageant of colour that you see around this city in January and February could not be replaced with any plant as showy. Yet, it is a contradictory plant in some ways. As a native of Western Australia, one would imagine that it would be perfectly happy in most parts of Australia. This is far from being the case, as good specimens are far from plentiful in most other parts of Australia. Even in California which has a comparable climate, it does not have that robustness and happy look that it has in New Zealand. It is not a case of rainfall, because even around Sydney with a rainfall of 60 inches, it is rather a tired looking plant. I mentioned that a disease had attacked this plant in Western Australia, and it is a very serious one for which no cure has yet been found. In fact, the Forestry Department of Western Australia have only been able to offer seed in very small quantities. Here is a case where we can help, with supplies of seed until they find some method of controlling the disease. I am unable to give the exact date when this species was first introduced to New Zealand, but whenever it was, we can safely say that its introduction was one of the major events in the history of New Zealand gardening. There are many other shrubs from Australia which have settled in so well here that we now accept them as almost an essential part of our gardening programme. Take the acacias as an example. In this amazing genus we have several hundred species from which to make our choice, and like certain brands of toothpaste we can get them in three sizes. The smallest grow up to 4 feet, the medium up to 15 feet and the largest up to 40 feet. Also by planting various species we can have them in flower nearly all the year round. Granted, there isn't a big range of colours but we don't want a range. If an acacia was some shade of yellow, we would not think there was something wrong. Spring would not be spring without the wattles, and they would be very hard to

replace in our garden scheme. Add to that the priceless attribute the acacia has of being able to grow successfully in dry conditions and we have a race of plants fit to adorn any garden.

Then we have the famous Waratah, *Telopea speciosissima* the national flower of New South Wales. It is unfortunately not everyone's plant as it will not tolerate a heavy clay subsoil. But in loose, well drained soil, it is an aristocrat and will stand up to 18 degrees of frost without injury. And the boronia. What can we say about this modestly beautiful little plant which exhales the most subtle and entrancing fragrance? Everyone knows this plant, everyone loves it, and nearly everyone tries to grow it. Despite its desire for a particular soil, it generally stays long enough in everyone's garden to get acquainted, and forever afterwards the gardener lives on its memory. Thousands of plants of *Boronia megastigma* are sold every year in this country and we have come to accept it as one of the symbols of spring.

For the summer months we have the callistemons, or bottlebrushes as they are commonly called, and they seem to grow well in almost any type of soil. They do not mind dry conditions or hungry soil and provide a riot of colour for several months.

Then we have the banksias which have such varied and interesting flower spikes. Again we can have these in flower all the year round if we plant enough species. Our Tuis and Bellbirds welcome the introduction of *Banksia integrifolia*, particularly as in June and July it provides an almost inexhaustible supply of nectar for them. This is a fascinating genus named after Sir Joseph Banks who collected specimens when he landed at Botany Bay with Captain Cook.

In the warmer parts of New Zealand will be found specimens of the Silky Oak, *Grevillea robusta*, one of the most striking of flowering trees. Recently, in California I saw an avenue of it, each tree over 40 feet high and each tree laden with its masses of burnt orange flowers. If it did not take so long to reach flowering age, this tree would be planted much more often. In May and June, we have the beautiful and unusual Pincushion Flower, *Hakea laurina* from Western Australia and if we used all the superlatives there are, we still could not describe in words the appealing beauty of the crimson, white and cream flowers. Unfortunately its use is limited, as it is not too hardy and inclined to be temperamental. It is interesting to note that large quantities of these flowers are sold in the Wellington flower markets.

As a companion to this plant we have the Winter Flowering gum, *Eucalyptus leucosylon rosea* which has been planted in thousands in this country, principally as a source of supply of nectar for our honey eating birds. Its use for that purpose has warranted its introduction, but when you add to that its ease of culture and wealth of blossom in the winter months, then we surely must plant more. There are many other genera which have made their mark in our gardens, such as the hakeas, grevilleas, prostantheras and dryandras. Even the famous blue leschenaultia is grown in many gardens. In one other aspect Australian plants have proved extremely useful, and that is in the matter of hedge

material. One of them, *Phebalium billardieri* has taken first place in many parts of the North Island and has also proved itself as a specimen plant. It is a native of Victoria, but up till recently has not been used for hedges there. Another plant that has proved useful for coastal hedges is *Correa alba*, a native of New South Wales and Victoria. Slow growing, it is true, but able to stand considerable salt spray. *Westringia rosemariniformis* is also very suitable for low hedges near the sea. I have mentioned only a few of Australia's floral gems and it is evident that we have only touched the fringe of that vast and colourful flora. Judging by what we already grow, I feel that our progress in this direction is far too slow. We should endeavour to introduce more and more species into this country for trial. It is a matter for regret that Australia does not possess a National Arboretum for with the constant occurrence of bush fires, many of their choice plants are in danger of extinction. They have indeed lost several in the last 50 years, and the more we grow in New Zealand, the less danger of their becoming extinct. Besides, we owe a debt to them for providing our gardens with such distinct and beautiful plants. Granted that many plants from Australia and South Africa are difficult to grow here, but surely this is mostly because we do not pay sufficient attention to their particular requirements. I cannot imagine any good gardener refusing a challenge to his skill, and every time he wins a battle, it gives him more encouragement to take on another adversary. Even when he loses he has probably learnt something.

And now we come to the South African plants. In the broad sense, I don't think any country in the world has contributed as much material to New Zealand gardens. A great many genera have been taken in hand by the plant breeder and the results in some cases have been spectacular. We have only to think of gladioli, freesias, nerines, sparaxis, ixias, montbretias, watsonias and lachenalias to realise what we owe to South Africa. Except in the colder parts of New Zealand, most of these plants can be grown outside so that we are able to see them in their full beauty. Even without the plant breeders' help, many of the original species are well worth growing and are indeed grown in New Zealand. We have only to see some of the collections of nerines, watsonias and lachenalias to appreciate this fact.

But there is one plant that has been sensationally improved by the breeders and this is the gerbera. This plant has proved so amenable to culture in this country that it is only natural to expect we should try to improve it. So much progress has been made that I think it is quite safe to say that the new doubles bred in New Zealand are far ahead of any that have been bred overseas. But, in our pride in this achievement, let us not forget that without the original *Gerbera jamesoni* from Barberton, none of this work would have been possible.

It is true that some South African plants are a little too happy in some parts of New Zealand, and can almost be classified as a nuisance. I have had the experience, and I daresay many others have, of trying desperately to get rid of the common arum. It has been no mean undertaking. But in a wild garden or uncultivated area, this plant behaves

itself perfectly and while it does that, it is definitely worth a place in some of our schemes. However, its near relations, the richardias or callas, have more than compensated for any misdemeanours on the part of the arum, and they have so stimulated our interest that many colourful forms have been raised in New Zealand.

It is perhaps difficult to select one plant which has had more influence on our gardens than any other, but if the choice was left to me, I would, without hesitation, name the pelargonium. Of course the pelargonium as we know it today, does not resemble very much the original species as introduced from South Africa, but it remains a pelargonium or to use its common name, a geranium. In the days when the range of material available for our gardens was not very wide, the geranium was represented in almost every garden: Maybe a bit monotonous at times, but its ease of culture and long flowering season made it a natural choice with the older generation gardeners.

The kniphofias or Red Hot Pokers were also widely planted in much the same situations as the white Arum Lily. The effect of the breeder's hand on these plants has perhaps not been so spectacular in comparison, but much work has been done to prolong the flowering season. With the comparatively recent discovery of many new species in South Africa, it is probable that many further advances will be made. The recent introduction of what we know as *Kniphofia zululandiae* is having a profound influence on our winter flowering schemes, particularly in fairly frost-free areas. In fact I do not think it would be extravagant to say that this is the most notable introduction of recent years from South Africa. It first flowered in New Zealand in 1947 and in the short space of ten years, has been planted in thousands. During the rather depressing months of June and July, the striking red spikes provide a glorious splash of colour.

In passing could I mention that there appears to be some confusion as to whether this plant is a true species. But as it comes true from seed, we, as horticulturists and not as cytologists, will continue to regard it as a species. And then we have the old reliable agapanthus. This was one of the earliest plants to reach New Zealand and it really settled in as a permanent feature of our gardens. Were it not so commonly planted, we would appreciate it more, but it has now become such a part of our horticultural landscapes, that we almost take it for granted. And yet, I can imagine any gardener, seeing it for the first time, going into raptures over its beauty. Our early settlers were entranced by its elegance and ease of culture. Here was a plant that would grow anywhere, and they proceeded to plant it anywhere, in sand, in clay, in dry and in moist positions, and everywhere it did well.

In much the same category was the old Belladonna Lily, again a plant that is not fully appreciated. Any old garden of the last generation was almost sure to contain some of the bulbs and many a drive was lined with these summer glories. I can well imagine the thrill that many English gardeners would get if they could grow this bulb outside as we do. Its botanical name has had so many changes that it has been hard

to keep up with them. I believe it is now finally settled as *Brunsvigea rosea*, but I'm afraid that most of us will still refer to it as Belladonna Lily and let it go at that. Another stalwart that is commonly planted, is the Lion's Tail, *Leonatus leonorus*. This has been used as a general purpose plant, and what a useful plant it has been.

In the herbaceous border, in the shrubbery and even as a specimen, it is distinctive and colourful. No fuss, no bother, just plant it and it grows. What more can we ask from a plant? No wonder it has been planted so freely. But I have heard the comment "It's common!" Maybe it is, but the good gardener is not concerned as to whether a plant is common or uncommon if it suits his landscape ideas. In any case the term "common" is comparative, as a particular plant may be quite uncommon in other districts. The gardener who has difficult conditions welcomes any plant that will grow well with him and the same thing applies to those unfortunates who have very little gardening aptitude. Witness the case of the mesembryanthemums which have proved so amenable to cultivation. We could say these are common but nobody will deny that they are extremely showy and make a blaze of colour which many other plants would find hard to equal. Our coastal gardeners are forever grateful for these so-called Ice Plants and nearly all of them are from South Africa. In Wanganui itself we are cursed or blessed with large areas of sandy type soils, and it is in these areas that the South African plants come into their own. Besides the Ice Plants, gazanias in many colours, arctotis, venidium, dimorphothecas and a host of other genera thrive in these conditions. What would we use in their place if we did not have them? Well, there is no doubt that we would find other suitable plants, but I doubt if they would be anywhere near as colourful.

And now we come to the shrubs and it is unfortunate that many of the most noteworthy subjects are only half-hardy. This prevents a great many gardeners in this country from enjoying their beauty. The only remedy I can suggest at this moment is for all gardeners to shift to Wanganui! Probably one of the most hardy shrubs is *Buddleia salviafolia* and this has been planted extensively either as a specimen, or as a large growing hedge. It may not rank in the top class as a flowering shrub, but it will stand the most unkindly treatment and has the real merit of flowering in late winter. The late Mr. C. H. E. Rhodes of Wanganui once informed me that he had been responsible for introducing this plant, but I cannot remember in what year. The only other South African plant that we have used as a hedge plant is *Tecomaria capensis* which is catalogued in New Zealand as *Tecoma capensis*. But this plant is rather tender and only suitable for the warmer parts.

Of the smaller growing shrubs we have had a wide range to choose from and in Taranaki particularly, extensive use has been made of such plants as adenandras, diosmas and podalyrias. But it is the ericas or heaths that have made the most impression and thousands of plants have been sold annually in New Zealand. The species that is probably the best known is *Erica melanthera* which should now be called *Erica canaliculata*. In districts where frosts are not too severe, this attractive plant provides



a cheerful note throughout the winter months and is widely grown as a cut flower. Fortunately it is not a difficult plant to grow and does well in a great variety of soils. I am unable to give the date of its introduction to New Zealand but it must have been very early in this century because I have seen plants over thirty years old. As it does not set seed in this country, all our stocks have been raised from cuttings, which means that the plants we grow are the product of one clone. For many years it was one of our principal winter flowering shrubs. But for sheer colour in the winter months nothing could be brighter than the plant sold here under the name *Erica* "Winter Cheer." This has been identified by the Bolus Herbarium as *Erica oatesi*. Mr. V. C. Davies informed me that it first occurred in his nursery, as a stranger amongst some seedlings, in the early 1920's. *Erica conica* was another species that is grown in frost-free areas. I remember seeing this plant in New Plymouth over 40 years ago. But I do not suppose that more than 20 or 30 South African species of erica have ever been introduced to New Zealand. When we remember that there are almost 500 species in South Africa, it seems rather amazing that we have not imported more of them. Admittedly many of them do not have a long life with us, but for the pleasure they give us and their high garden value, they are well worth replanting every few years.

When we speak of South African plants, the first plants many of us think of are the proteas, the national flower of South Africa. This is a large genus of over a hundred species and more are still being discovered. Roughly about 20 species have been grown in New Zealand and of these the winter flowering types have been most commonly planted. While they cannot be classed as hardy plants, they have been used extensively in many parts of the North Island, and as far south as Dunedin. The first species introduced was the Sugar Bush, *Protea mellifera*, and the fact that it flowered in the winter stimulated the interest of gardeners. So gradually more species were introduced, until today, the protea is recognised as not only an interesting and beautiful flowering shrub, but as an exceptional cut flower. So much so that over 10,000 blooms are sold in the Wellington flower markets every winter.

Another genus which is gradually entering into our garden schemes is the leucadendron, a large genus of over 70 species. The Silver Tree belongs to this genus, but as it is rather tender, plantings have been confined mostly to the warmer coastal districts. Also as its life is probably not more than 20 years and its beauty is confined to its foliage, it has not been planted very extensively. However, within the last few years a few more species have been introduced and some of them have very high horticultural value. As they present very few cultural difficulties, it will be only a matter of time before their influence is felt.

Among all the plants I have mentioned, it would be difficult to say which are the most beautiful, so I am going to mention one more genus about which there will be no question. This is the genus *Leucospermum*. We will start with *Leucospermum reflexum*, which was the first species introduced to this country. I can well remember the

excitement that occurred when it first flowered. This was in the garden of the late Mr. Fred Walker, of Wanganui. Previous to its flowering, I had put down a large number of layers, so you can imagine that when it did flower, we were very quick to get those layers off the parent bush. Here was a real acquisition to our gardens, something new, something exotic, something that every gardener would want. But before this plant went on the market, we had a few things to learn, and we learnt one thing very quickly. It was not hardy! The second thing we learnt was that it would not tolerate a heavy clay subsoil. However, despite these two weaknesses, it has been planted very extensively in light, well drained soil, and has added a new note to many gardening schemes. Its striking silver foliage and unique red flowers make this an ideal plant for use as a single specimen. Now, having flowered one species of this amazing genus, it was natural that we should wonder if there were any more worthy members. We found that there were. In fact there are about 40 species native to South Africa. So the hunt was on for leucospermums and during the last 10 years many new species have flowered in this country. I want to mention three of them which are really outstanding. These are *L. bolusi*, *L. tottum* and *L. nutans*, and I doubt if three more meritorious shrubs have ever come to New Zealand. Their spectacular beauty, their long flowering season and their tolerance of dry conditions, mean that these plants are going to have a stupendous effect on our gardens. I can visualise the time when some imaginative and enterprising parks superintendent will set out a scheme where these plants will be used in hundreds.

To sum up. All over New Zealand our local climate governs the choice of what we shall plant and this applies particularly to the amount of water available in summer. Already, most municipalities are worried about their supplies and when we consider that the population is increasing all the time, it is obvious that the water supply can only get worse. So it is only natural that we, as gardeners, will endeavour to select only plants that will flourish under dry conditions.

We have now proved that the great majority of Australian and South African plants that are established in our gardens, suffer no harm during dry periods, in fact some of them enjoy a drought. I think we should particularly note this attribute, because it means, by selecting the right plants from these two countries, we shall at least be able to save ourselves the agony of watching plants die through lack of water.

We have also proved by what we have grown, that between these two countries, we can enlarge our colour schemes far ahead of what we have been doing with plants from China and Japan. Again, we have a larger choice of small growing shrubs which enables those with small gardens to have a more interesting and varied collection, and there is no lack of material to suit everyone's taste. We can have plants that even the newest amateur can grow, we can have plants for the connoisseur, and we can have plants that challenge even a skilled gardener to grow. Another important feature about these plants that appeals to all of us, is the habit of many of them of flowering in winter. From Australia, we have the banksias, hakeas, agonis, thryptomenes

and many others. From South Africa, we have the proteas, leucadendrons and ericas, making a truly enormous list, enabling us to have a pageant of colour in our coldest and wettest months.

This is a small country, but I think it is obvious to all who are really interested in plants, that New Zealand is capable of being one of the finest gardening countries in the world. Just over 1000 miles in length, we have in this small area an assortment of soils and climate which allows us to grow an amazing variety of plants, from the very hardy to the sub-tropical. I used the word "capable" deliberately, because I do not think we are making anywhere near full use of our peculiar conditions. For example, just over 1200 miles away from us is a flora that sent the early botanical collectors into ecstasies. Even in those days of difficult transport, they succeeded in establishing in England a great many more species than we have in New Zealand today. Those of you who have seen a copy of Sweet's "Flora Australasica" with its marvellous colour plates, will realise this only too well.

I think it is a matter for real regret that we, as plantsmen, neglect the opportunity to enrich our gardens further from the huge storehouse of Australia and South Africa. It should be possible, with the skill we have, to establish, particularly in the North Island the finest collection in the world of half-hardy plants. One of the aims of the New Zealand Institute of Horticulture, is to foster the introduction of new plants and surely, with all the members in this country, with all the enthusiasm and drive they have, it should be possible to establish a Botanical Garden in the North Island. There are a number of cities with a suitable climate and I notice delegates here tonight from most of them, so maybe I should not be too parochial. But supposing, just supposing, that our Virginia Lake gardens were transformed into a botanical garden? Here we have the ideal climate, we have various types of soils, and above all we have the water, which could be pumped to every corner. Then, with enough enthusiasm we could, in a very few years, amass such a collection of half-hardy plants that it would constitute a Mecca for all the plant connoisseurs of the world. Then no longer would New Zealand be known only for its All Blacks, its Maoris and its scenery.

As you know, there are many plants in Australia and South Africa that are rare, and this very rarity makes it imperative that strong measures be taken to preserve them for posterity. This is where we could help. In this fertile and blessed country we have proved that we can grow an enormous range of half-hardy plants, and we have numerous examples of plants doing better here than in their native state. So what better deed could we do than provide a storehouse for replenishment to those countries who have plants in danger of extinction? I can give you one striking example of what we can do. In the island of Robinson Crusoe, Juan de Fernandez, off the coast of Chile, there used to grow a very pretty bulbous plant called the Chilean Crocus — its botanical name is *Tecophilaea cyanocrocus*. Well, it no longer grows there, as the introduced goats have eaten it out, but in one garden in New Zealand there is a stock of hundreds of bulbs which

seem perfectly happy. They not only flower well, but they set seed as well, so that there will now be no danger of this bulb becoming extinct.

Now you have seen on the screen tonight some pictures of just a few of the plants that it is possible to grow in Wanganui. Multiply these by a thousand and still there would be thousands more that we could grow, but which have not yet been introduced. This address tonight is being given in memory of one of the greatest plant collectors of his time, who, by his example, showed us what could be done — by one man! So I could wish that we in New Zealand were not so complacent about our progress in horticulture. I could wish that all of you here tonight would resolve to follow in the footsteps of this famous plantsman, and search out every corner of the world for plants to enrich our gardens. I cannot imagine a more worthy heritage to leave to our younger gardeners, or a finer monument to the memory of Sir Joseph Banks. In effect, we should keep his memory green, not only by talking, but by doing!

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### CAPE HEATHS

*F. R. LONG, A.H., R.H.S., (South Africa).*

In writing an article on Cape Heaths or ericas, it is realised that the subject is a much bigger one than the ordinary horticulturist would ever contemplate.

In "Flora capensis," the standard botanical work on the South African flora, the genus *Erica* is dealt with in volume IV, published in 1909 by Messrs. H. Bolus, F. Guthrie and N. E. Brown. In this work 469 species are described, 90 classed as imperfectly known and 130 supposed hybrids. What an extensive genus! But this article will deal more with the cultivation of Heaths and under this heading the Kew Hand List of 1900, 80 species and varieties are listed but later, in the 1931 edition, only 43 appear. The Kew Hand Lists are issued to show the plants grown in the Royal Botanic Gardens as against the Herbarium material. It would appear that even at Kew, many living species have faded away under cultivation.

To appreciate and to fully understand the requirements for the growing of Cape Heaths, it is as well to understand something about their natural habitat, specially climatic conditions.

Most species are found in the Western Cape, more or less on the coastal belt where a regular winter rainfall occurs and where there is air humidity throughout the year. They are not found in the drier parts of the Karroo. A good many are found along the areas to the East, right into Natal, then a few in the mountains of the Rhodesias and Central Africa. One species at least goes as far as Abyssinia.

Moisture therefore is a first call, although a much drier late summer and autumn will suit many species. The second factor and a most important one at that, is well drained soil (clay cannot be tolerated). A gravelly and even a poor sandy soil suits many. Thirdly, an acid soil is essential; any alkalinity must be avoided. One species would appear to be an exception and that is *Erica chloroloma* which occurs

right here in the Port Elizabeth coastal outcrops of limestone. This is a red flowering species, not over attractive.

Several are found from sea level to altitudes of 8,000ft., others only at the 2,000-4,000ft. level.

Having digested these essential facts, the grower of heaths in New Zealand should set about raising plants giving them suitable conditions as far as possible. The return will pay handsome dividends in beauty, long flowering periods, long life and, when once established, little in the way of maintenance not more than, say, that required by veronics.

Heaths are not difficult to raise although in the young stages may be considered fussy. With ordinary gardener's patience, this can be easily overcome as will now be set out below.

The usual method in South Africa is to raise plants by seed to the exclusion of cuttings. Seed of many species is readily obtained from the National Botanic Gardens, Kirstenbosch, Cape Town. The best time to sow is in March-May or late August-October. The seed of all species is very small and fine, care therefore must be given to sow thinly. On no account sow thickly as a crowded germination is almost impossible to handle, they are so tiny.

The soil should consist of equal parts of loam, peat and a good coarse river sand. If pots are used, these should be 5 inch., well cleaned and crocked to half full. Firm the soil well and then sterilise the filled pots by pouring boiling water over them, allow to drain away and stand aside for some hours. Sow the seed very thinly and just cover with a sprinkling of sterilised sand, firm in the usual way and then place in a cool damp frame or glass house and do not let the surface dry out. Watering is best done by immersion or by spraying; stand the pots in saucers to avoid drying out. Rain water should be used to avoid any chance of alkalinity. A sheet of glass to every pot will help to conserve the moisture but avoid over moist conditions such as when beads of water collect on the glass. In such cases give more air at the side of the sheet of glass.

Germination is slow and very little will show under 6 weeks. Seedlings should be pricked out when quite tiny and remember these have long roots even when very young. A good practice is to prick out three seedlings to a 3 inch pot or tin, alternatively one seedling to a thimble pot. Coddle these for a few days after pricking off, keeping direct sun off; keep humid with a fine spray. Growth will be very slow for a time but never let the plants become pot bound, plant out in their permanent positions when 6 inches high — never purchase "nice big plants," as ericas do not tolerate much in the way of root disturbance.

Planting out is best carried out in late autumn or early spring during rainy spells. Holes or borders should be prepared before hand; incorporate some peat and/or good decayed leaf mould, such as Oak. Providing the site is suitable and the soil well drained, holes do not need a lot of preparation. Some gardeners sow the seed direct into holes and then thin out to one or two plants. The

late Mr. Matthews, first curator at Kirstenbosch, adopted this method with success.

Associated with the growth of ericas is a mycorrhiza or fungus in the soil. The absence of this may be very detrimental. It is wise to obtain a little soil near where ericas are growing successfully and so inoculate new areas. In this respect good leaf mould or fresh peat will help if used right from the sowing time.

The remarks about sterilising the soil may sound anti-mycorrhizal growth. Sterilising will assist in destroying weed seed and moss spores. It would be wise not to sterilise all pots but to experiment with some. Seed may also be sown in frames but here the control is not so effective.

Propagation by cuttings is also adopted but not in South Africa to any extent. Cuttings of not more than 1 inch, namely the soft side shoots usually found right up the stem, are severed with a heel and placed round the edges of 5 inch pots in sandy soil as recommended for seed sowing. Keep close and well mist sprayed until rooted. When potting up, disturb the roots as little as possible.

Heaths like an open, hillside, sunny site. They are tolerant to wind. Well drained sandy or laterite (gravelly) soil suit most of them. Manure should be avoided but good matured compost will form a much needed mulch.

The vigour and height vary much with the species. Many provide useful cut flowers and, on account of their durability, make popular market flowers. Many can be dried off and used when flowers are scarce. The cut flowers travel very well and last weeks in water.

Now for a selection of a few desirable species from a gardener's point of view:—

#### I. TALL SPECIES.

- Erica caffra* — white (not pure) flowers small but profuse, bushes to 12-15 ft., long flowering period. Grows at 2,000 ft. within 50 miles of Port Elizabeth.
- E. bowiana* — pink flowers, large tubular, 6-7 ft. high, flowers throughout the year. This is the writer's favourite species. Very vigorous and lovely. There is also a pure white variety.
- E. baccans* — pink flowers in winter and spring, 5 to 6 ft., small globular clustered at head of stems.
- E. perspicua* — called the "Prince of Wales Heath," rose coloured flowers, tipped white, 1 inch; up to 6 ft; found in moist places up to 3,000 ft. in the Western Cape.
- E. ventricosa* — has dense terminal flower heads, white to pink, 6 ft., flowers from spring to autumn.

## II. MEDIUM HEIGHT SPECIES, ROUND 3 FT.

- E. cerinthoides* — brilliant scarlet 1 inch, flowers throughout the year. A variety *barbertonae* is a bushy shrub making a brilliant display. Grown in the "Wilds" Johannesburg, 5,000 ft., with 16 degrees of frost, can be seen by motorists 500 yards away. *E. cerinthoides* is common on the Eastern Province veldt and seems easy of cultivation.
- E. deliciosa* — Small soft pink, to 3 ft. A heath that resembles the Highland Heather. It forms dense masses of spectacular colour at the Witteklip near Port Elizabeth, where acres of it can be seen in flower in June.
- E. chamissonis (polyantha)* — Similar to the above, scented pink
- E. plukenetti* — a sturdy shrub with attractive large drooping flowers, throughout the year, carmine, others white or green found from sea level to 5,000 ft.
- E. macowani* — a sturdy shrub with yellow upright flowers, 3 ft., also a variety dark red. Nov. to May.
- E. mammosa* — a beautiful scarlet drooping flowered 4 ft. shrub. Found mostly in sandy ground, sea-level to 4,000 ft. Nov. - April, but a few throughout the year.
- E. longifolia* — there are pink, white and greenish forms of this attractive species with dense heads of flowers, 3 ft., chiefly from January to March.
- E. viridipurpurea* — dense mauve to pink, small flowers, 3 ft., can be cut hard back, excellent cut flower.

## III. DWARF SPECIES.

- E. regia* — a form now largely grown has white at the base with a crimson tip, a beautiful small shrub, spectacular.
- E. patersonia* — sends up a brush of dense yellow flowered growths in winter, up to 2 ft., most attractive amongst grass on hillside. Does well at 5,000 ft. (known as *E. abietina*) in Johannesburg with its summer rains but comes from the Western Cape.
- E. massoni* — scarlet with green tips, long tubular flowers, up to 1½ ft. Oct.-May.
- E. taxifolia* — flowers of deep pink, small but densely clustered, sometimes called the Double Heath on account of its sepals, said to do well under cultivation.
- E. ardens* — a 12-18 inch species — also the white form *albiflora*; deep pink small flowers very profuse right up the stems. Does well in cultivation in Johannesburg but comes from Riversdale, Cape.

The above selection is but a meagre list of this outstanding genus; perhaps it only represents the writer's fancies. Many more should be tried out in New Zealand, in fact the sowing of large batches of mixed seed could be tried out. This should give a keen sense of anticipation and adventure.

As will have been noted, the genus consists of tall to quite dwarf species. The flowers vary from tiny bells to long upright and drooping bells, some with inflated, globular shaped petals, others with petticoats (*E. glauca* and its variety *elegans*).

The range of colours and colour combinations is fascinating — white, green, yellow, red, scarlet, crimson, mauve and purple, many with green tips. A few have wide open petals (*E. jasminiflora*), others with bunches of flowers (*E. bruniades*).

In "Wild Flowers of the Cape of Good Hope" by Elsie Garrett Rice, there are 39 illustrations in colour, whilst the old volumes of Andrews "Heaths" will give a much wider range and a very full one of coloured illustrations.

More extensive cultivation of heaths is called for as there is no doubt whatever that the Cape Heaths provide beautiful shrubs that, when once established, will give pleasure with a minimum of upkeep. Fussy perhaps in the young stages but, with the correct conditions, easy to handle for the average gardener; moreover many provide excellent cut flower material.

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## AUSTRALIAN PLANTS IN NORTHLAND

HILDA GIVEN (*Whangarei*).

The introduction of so many plants from other countries, particularly Australia, is having an influence on the appearance and design of New Zealand gardens generally. There are fewer beds of annuals in the lawns and more borders and banks covered with shrubby plants.

Northland is a hilly place with rivers, streams and a wide expanse of sea coast. There are almost flat areas of good river silt soils, hills and undulating country of rich volcanic soil, heavy clays and gumlands, and areas of sandy soil. In parts, particularly on the east coast, there are small sheltered places where tender sub-tropical plants may be successfully grown. A wide variety of conditions, indeed, and fostering a wide variety of plants.

Most districts have the typical Northland bush as a background, the shades of green and the variety of lush foliage making an ideal setting for Australian shrubs which are on the whole not generally provided with lush foliage of their own. However, it is not desirable that Australian or other exotic plants should be allowed to grow wild and push back our regenerating native bush, as some acacias and *Albizzia lophantha* are inclined to do in suitable places. It must be admitted, nevertheless, that these trees make wonderful roadside displays of colour in spring. Another "breakaway" is *Hakea sericea* (syn. *H. acicularis*), which was originally used as a hedge-plant. This has seeded on our gum-lands and now roams the hills in a number of localities. The related *Hakea saligna* is popular as a tall hedge plant, particularly in break-winds surrounding citrus orchards at Keri-Keri.



### Trees.

Eucalypts are being used to a considerable extent as shade and shelter trees, and there are many fine specimens on Northland farms. Among the many Australian flowering trees grown in Northland, *Eucalyptus ficifolia* (scarlet-flowered gum) is one of the most showy for summer flowering. *Ceratopetalum gummiferum*, covered in creamy flowers early in the year and massed with terra-cotta coloured bracts during February does well in warm, moist conditions. *Grevillea robusta* grows to a good height before making its lovely canopy of gold blossom. When conditions are suitable, particularly following a hot, dry season, *Brachychiton acerifolium* (syn. *Sterculia acerifolia*), the Flame Tree, acts up to its name when seen unexpectedly, appearing truly to be in flames. *Brachychiton populneum* (syn. *Sterculia diversifolia*), the Kurrajong, is not showy, but is a beautiful shade tree with leaves that rustle and whisper with the slightest wind. This tree is remarkable in Australia, where in such areas as the upper Murrumbidgee basin, it is lush green when everything else is yellow and scorched. The Australian *Melia azedarach australasica* (there is also a Mexican subspecies) is also popular as a foliage and shade tree. *Stenocarpus sinuatus* (Firewheel Tree) flowers well after a hot summer, the brilliant wheels of orange scarlet being showy against the background of handsome glossy leaves. *Castanospermum australe* (Black Bean or Moreton Bay Chestnut) also has good rich green glossy foliage and showy red flowers, but needs a warm situation.

Casuarinas make a change with their weeping, fine, leafless stems. Some are glaucous in colour, some are rich green and some have bright red tips. Several species can withstand salty conditions and most are at their best beside streams. Eugenias are much used as shelter and ornamental trees, their red, blue and purple berries making them most attractive.

*Acacia podalyriifolia* brightens many gardens in early winter. Being a small tree and having foliage which is attractive at all seasons, it is most useful for small sections. *Acacia baileyana* (Cootamundra wattle) flowers in very early spring and sometimes as early as July. This is a fine tree but unfortunately easily broken by strong winds. *Acacia pravissima* makes a shower of gold in spring when sheltered from cold winds. In its native habitat it occurs in sheltered valleys. *Acacia riceana* is used to some extent in Northland for hedges and farm shelter-belts but tends to become rank with age.

Some of the less known eucalyptus are very showy and are being tried. Many of these are quite small and shrubby, being very useful in small gardens. The following are promising — *lehmanni* (yellow), *rhodantha* (deep red), *tetraptera* (pink), *stricklandi* (large yellow), *pyriformis* (red or gold) and others. *E. macrocarpa* (very large red flowers) flowered in my garden but died after a long dry period. *Crotalaria laburnifolia* grows to the size of a tree in sheltered warm situations and its green bird-like flowers are prized for picking.

### Shrubs.

*Telopea speciosissima*, the New South Wales Waratah, is perhaps the most handsome of the Australian shrubs grown in Northland, but suffers from thrips attack during hot dry weather. *Callistemon citrinus splendens* does very well in most soils and conditions provided drainage is good. All callistemons that have been cultivated seem to do well, but *citrinus* is the most popular. Other bottlebrush and similar shrubs grown are *calothamnus*, *melaleuca*, and *Beaufortia sparsa*. The requirements of the latter seem to have been misunderstood, so many plants having died as the result of hot, dry summers. *Micromyrtus*, *Lhotskya alpestris*, *thryptomene* and *hypocalymma* commence flowering in winter and make good bushes that are seen at their best against a background of *hardenbergia* flowering at the same time.

In late spring the prostantheras, of which *ovalifolia* is the most popular, make a good show. *Boronias* grow and flower well but are short lived and do not like our summer conditions, being mostly swamp plants. *Chamaelaucium uncinatum* (Geraldton Wax Flower) is sometimes seen in warm situations, the best specimen I have seen being in clay soil with plenty of rubble added. *Petrophila*, *kunzea*, *isopogon*, *lambertia* and *leschenaultia* all grow when soil and situation is suitable. My plant of *Leschenaultia biloba* was planted and flowered last year, and promises well for this. *Hibiscus huegeli* also flowered last summer in my garden. Cuttings from this plant have flourished through winter frosts in Nelson.

Plants of the pea family are numerous in Australia, many of them suitable to add charm to rock gardens of the larger type which are tending to become the home of many small shrubs. Some that are grown in Northland are *chorizema*, *swainsona*, *Hovea elliptica* (*H. celsi*), *Goodia lotifolia*, *templetonia*, *Clianthus speciosus* and *pultenaea*. *Doryanthes palmeri* flowered well after a very dry summer. This is a striking plant in both flower and leaf.

*Agonis*, *baeckia*, *baura*, *banksia*, *dryandra*, *Olearia gunneana*, *pimeleas* and *indigoferas* are some of many more Australian natives that do well in Northland.

In conclusion, I must say that I have noticed most Australian species growing well in Northland do not come from low rainfall areas and they need water and good drainage. Most of them are also particularly sensitive to any disturbance of their roots and are difficult to transplant from the open ground.

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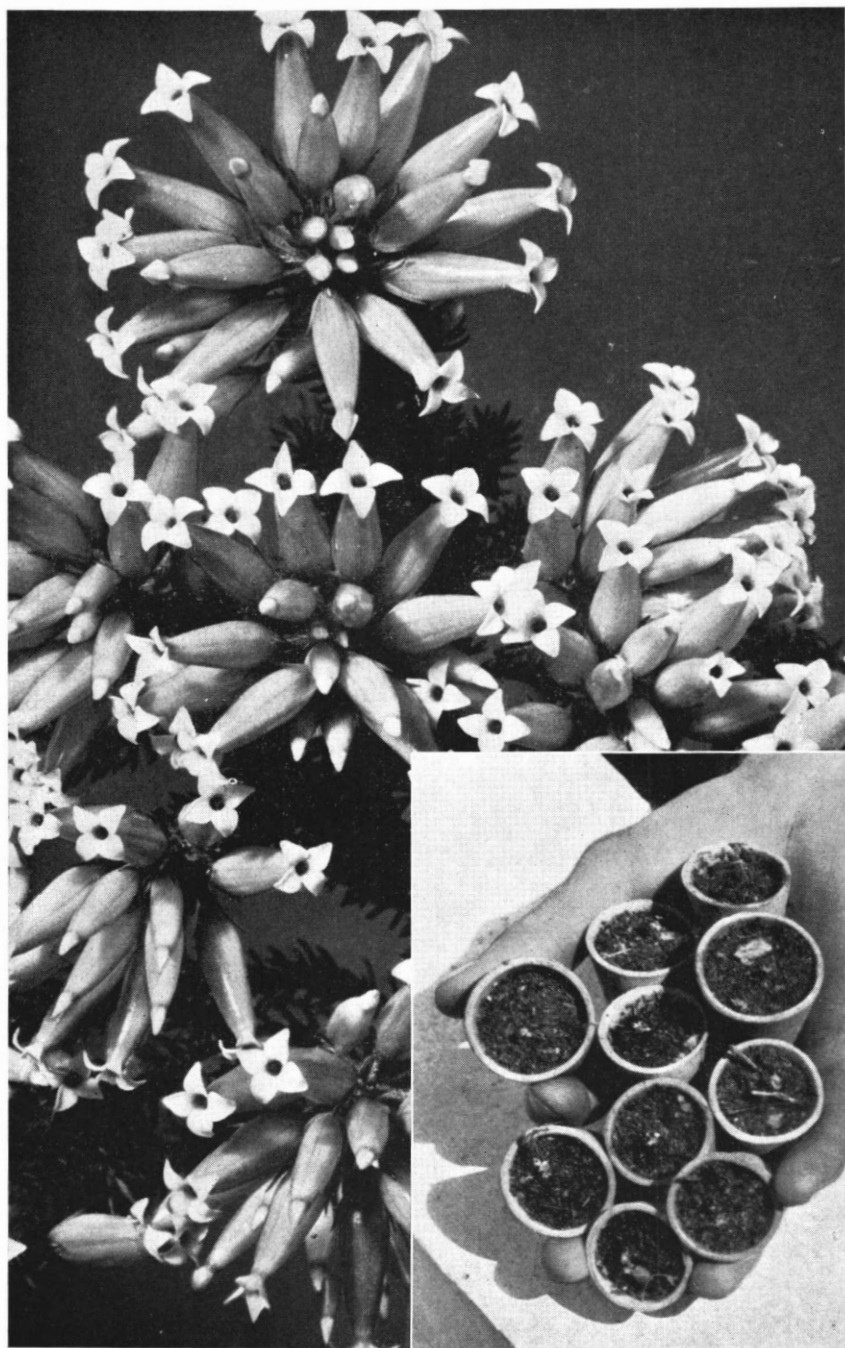


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### NOTES FROM THE CHRISTCHURCH BOTANIC GARDENS.

L. J. METCALF (*Assistant Curator, Botanic Gardens, Christchurch.*)

After a promising spring the weather deteriorated rather badly and as with many other parts of the country we can say that we have had the worst introduction to summer for many years. Our rainfall was considerably above average and temperatures of both the soil and air



*Erica ventricosa grandiflora*  
(see page 252).  
(Douglas Elliott)

*Tiny erica seedlings just pricked off  
into thimble pots (see page 251)*



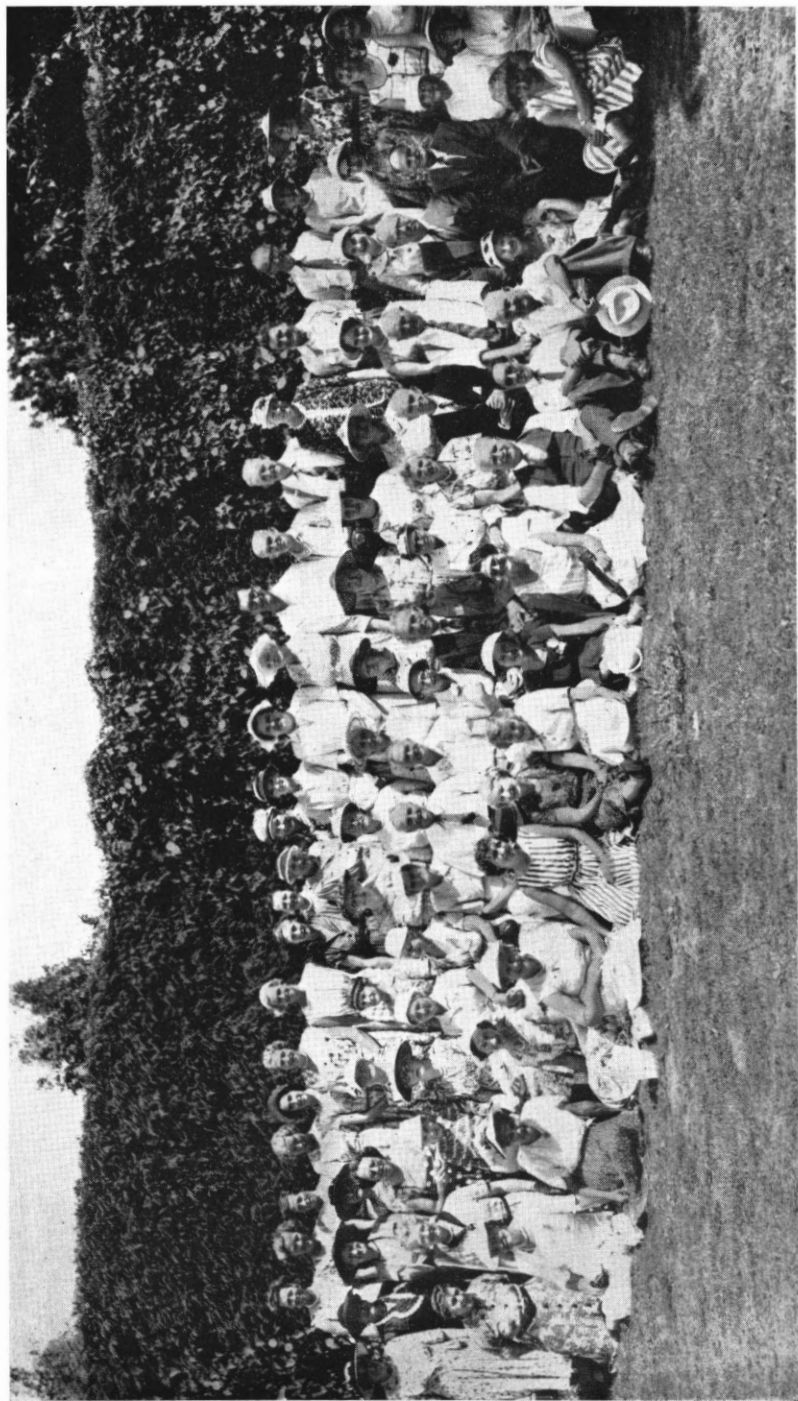
*Washingtonia filifera* var. *robusta*, Princes St., Auckland, 1953 (see page 235).



*Euphorbia  
splendens*  
in a Northland  
garden.  
(see page 254)



*Livistona chinensis*,  
Remuera, Auck-  
land, 1953.  
(see page 235).



*Group of Members and Delegates at the R.N.Z.I.H. Annual Conference, Wanganui, 14th February, 1958 (see page 274).  
(Kandid Kamera).*

were generally two or three degrees below those of the previous year. For the past four months the period has been characterised by cold wet soil conditions with subsequent lack of growth, everything has been late and in the case of some bedding plants, they have gone to leaf rather than produce flowers.

Mention might be made here of two trees which at this time of the year usually make a fine display and yet they are seldom seen in gardens. The first is *Koelreuteria paniculata* which is sometimes known as the Golden Shower Tree. It is a tree ultimately growing to a height of 25-30 feet and with a rather pleasing habit of growth, the leaves are pinnate and often over a foot in length. About the end of January or the beginning of February it literally covers itself with large loose panicles of yellow flowers and makes an outstanding specimen at a time of the year when flowering trees are few. The flowers are followed by large bladder-like seed pods which in themselves are quite ornamental. It does not appear to be fastidious as to its requirements and it will remain a moderate sized tree for many years. Those growing in the Botanic Gardens are in a dry sandy border by the magnetic observatory and even during the driest of summers show no signs of distress and they seldom fail to cover themselves with flowers.

The other tree which at this time of the year is rather outstanding is *Acacia terminalis* or as it is more commonly known *Acacia elata*, the Cedar Wattle. A good specimen of this is growing just behind the Iris Pond in the bog garden and usually it commences to flower from about the middle of February according to the season. It is a tall tree growing to a height of 30-35 feet or in its natural habitat in New South Wales a much greater height. The handsome dark green leaves are compound and measure up to 1ft. in length while the flowers are in compound racemes with about 40 in a head. They are pale lemon yellow and about  $\frac{1}{2}$  inch across. The flowering period usually extends well into March.

Turning now to some of the plants recently acquired by the Gardens or raised from seed, perhaps the most noteworthy is a species of *meconopsis* which arrived here as seed in 1955 under the collector's number *Meconopsis*, sp. S.S. and W. 7943. Two plants of this species were raised and when they flowered last November they turned out to be the most beautiful clear pink in colour. The foliage is very handsome being copiously covered with long golden hairs and the plant is worth growing for that alone. The only drawback with this species is that it is monocarpic. Another species of *meconopsis* received under the number S.S. and W. 8480 is yet to flower.

Another *meconopsis* received from the 1954 British Museum expedition to Nepal turned out to be a magnificent red flowered species growing 4-5 feet high. It may prove to be a form of *M. nepaulensis*.

From the same expedition seed of a clematis was received as *Clematis orientalis*? Plants of this were put out last spring and the first of these is now in flower. This plant is quite different from the *C. orientalis* which is already growing here, and may prove to be a

distinct variety or possibly a new species. The most obvious differences are its more slender habit of growth and in the flowers, the bases of the sepals on the outside being a brownish colour whereas those of typical *C. orientalis* are yellow to slightly greenish, and the filaments are indigo coloured instead of a greenish colour. Further examination shows that whereas *C. orientalis* is described as having foliage either glabrous or minutely pubescent, the Nepal plant is definitely pubescent. The petioles and mid-ribs are fairly well covered with long white hairs while the undersides of the leaflets are covered with scattered white hairs. Comparison of the flower with that of the *C. orientalis* already in cultivation here showed that the filaments of this plant have two broad wings which make them almost ovate-lanceolate whereas the Nepal plant has narrower filaments and the hairs on them are much longer and more silky. So it would seem that this plant could possibly be something quite distinct. However, for definite determination we must await information from Kew from where the seeds were sent.

Turning now to New Zealand plants we have flowering at present a plant of *Forstera mackayi* which must be rated as one of the most beautiful of our smaller alpiners. It has erect or somewhat decumbent stems which are densely covered with closely imbricated leaves of shining dark green. The flower stems measure 4-5 inches long and are 1 or 2 flowered. The flowers are large, mostly about  $\frac{3}{4}$  inch diameter, and are white with a dark rose coloured band around the inside near the bases of the petals. The species was discovered in the Paparoa Ra. about 1935 and described by Allan (Trans. N.Z. Inst. 65 (1936) 221) who discovered that *F. mackayi* also included some previous specimens from the N.W. botanical district collected as *F. sedifolia*. The specimen in the Gardens was collected last year in the Victoria Ra. near Maruia.

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## ANNUAL REPORT OF THE DOMINION COUNCIL FOR THE YEAR ENDED 30th SEPTEMBER, 1957

Ladies and Gentlemen,

The Dominion Council has pleasure in submitting its 35th Annual Report, for the year ended 30th September, 1957.

### 1. MEETINGS:

(i) **Annual Conference:** The 34th Annual Meeting and Conference of Delegates was held in Whangarei on Thursday, 28th February, 1957. This Conference was particularly well attended. Most District Councils were represented, and in addition there was a very strong representation from the N.Z. Institute of Park Administration and other organisations affiliated with the Institute. A very friendly and cordial spirit prevailed throughout the business proceedings and in the most enjoyable social functions arranged by the host District Council. The Conference was very fittingly officially opened by the Hon. Mr. Smith, Minister of Internal Affairs.

(ii) **Dominion Council:** During the year the Dominion Council met on four occasions and the average attendance at those meetings was 16. The Dominion President regretfully was absent from two of those meetings through illness. In his absence, Mr. J. F. Living, F.R.I.H. (N.Z.), chairman of the Finance Committee, Presided.



(iii) **Sub-Committee Meetings:** The Examining Board, the Publications Committee, the Finance Committee and other special sub-committees met at various times during the year, giving specialised attention to the administration of the affairs of the Institute.

**2. IN MEMORIAM:** It is with much regret that the Dominion Council records the passing of several members during the year. Their loss is sadly felt and our sympathies have been suitably conveyed to their relatives. Particular reference is made to the passing of Dr. R. W. B. Oliver, Life Member, of Wellington, former Director of the Dominion Museum, and a member of the Loder Cup Committee from 1939. Also to the passing of Lady Norwood, F.R.I.H.(N.Z.) (Wellington), Mrs. North, F.R.I.H.(N.Z.), (Hamilton), Mr. H. J. R. Cutler, A.H.R.I.H.(N.Z.), Mrs. A. R. Parr, F.R.I.H.(N.Z.), (Auckland), and Mrs. G. De V. Chitty F.R.I.H.(N.Z.), (Hamilton). The memories of these and others whose names have not been mentioned are greatly respected.

**3. MEMBERSHIP:** The membership of the Institute has been well maintained. At 30th September the membership stood at 2205 (including 34 Associates of Honour), compared with 2102 in 1956. This membership constitutes 16 active district councils. It is sincerely regretted by the Dominion Council that organised activities have ceased amongst some former district councils. Members in these localities appear to be catered for, however, in their horticultural interests by the activities of local horticultural and beautifying societies and other such groups. This, and the establishment of District Councils in new areas, is receiving the attention of the Dominion Council. Recently a small sub-committee was set up to investigate the whole question of increasing the membership. It is early yet for this committee to report, but District Councils will be kept informed.

**4. FINANCE:** (1) **Annual Accounts:** The appended annual statements of accounts reveal an excess of Income over Expenditure of £155/3/7 for the year, after making a substantial allocation from membership subscriptions to the Publications Account. This method of allocation and keeping a separate account for the Journal has been followed with a view to keeping the finances of the Journal separate from the general accounts of the Institute. It is felt that, in this way, the publication can be administered in an efficient and businesslike manner. (This account relates to the Journal "New Zealand Plants and Gardens"). Income from subscriptions has increased. General expenditure has been kept down. The increase in Examinations expenses represents the cost of printing the new Examinations Handbook containing the revised syllabuses. This is non-recurring. It will be apparent that the increase in subscriptions approved at the last Dominion Conference was justified.

(2) **Trust Accounts:** These total £885/17/2 and are clearly shown in the published accounts. All these funds are properly invested.

(3) **Publications Account and Loder Cup Account:** Separate statements covering both these accounts are appended. Revenue from advertising in the Journal has been disappointingly low, but, as the Journal gains in circulation and becomes more established, its value as an advertising medium will improve, and so should the revenue from this source. The grant received from the Internal Affairs Department towards the Publications Account is acknowledged with much appreciation.

(4) **Local Body Donations:** The support accorded the Institute during the year has been appreciated.

**5. PUBLICATIONS:** The Dominion Council is very happy and proud to report that the official Journal, "New Zealand Plants and Gardens," is now quite firmly established under the expert editorship of Mr. G. A. R. Phillips. The Journal has taken on a new format, and each quarterly issue has reached a high literary standard. The articles published have been varied and extremely well received, holding the attention and interest of all readers, whether they are amateur home gardeners or professional horticulturists. The Dominion Council congratulates the Editor on the standard of

the Journal and places on record its sincere appreciation of the interest Mr. Phillips has taken in his duties relating to the Journal, and, in fact, in the affairs of the Institute generally. The Institute has received many complimentary letters from readers, both in New Zealand and overseas, expressing their appreciation of the Journal. The number of articles written by New Zealand authors on New Zealand subjects is most gratifying. The Dominion Council is anxious to maintain "New Zealand Plants and Gardens" on the highest possible literary plane as the official organ of the Institute.

**6. ARBOR DAY:** The annual observance of Arbor Day gives opportunities for due prominence to be given to the outstanding importance of tree-planting in our Dominion. By these regular and well-publicised observances the citizens of our country may be made more conscious of the beauty and value of trees — a consciousness which deserves greatly to be encouraged. The Institute, through its District Councils, can play a vital part in this, and Arbor Day provides golden opportunities for such participation.

**7. SOIL CONSERVATION:** The assembling of the data desired in this research has proved a little more difficult than anticipated at first. The special sub-committee has been engaged upon it, and expects to have a report available for the forthcoming Conference.

**8. LODER CUP AWARD 1957:** This Award is "offered to lovers of Nature in New Zealand to encourage the protection and cultivation of the incomparable flora of the Dominion," and is made annually. The Dominion Council extends its congratulations to Mr. F. W. Lokan, of Invercargill, who received the Award for 1957. Mr. Lokan was nominated for the Award by the Southland District Council. There were altogether seven nominations. Mr. W. K. Dallas, A.H.R.I.H.(N.Z.), N.D.H.(N.Z.), represents the Institute on the Loder Cup Committee.

#### **9. EXAMINING BOARD:**

(a) **Chairmanship:** Prior to his departure overseas, Mr. E. Hutt, A.H.R.I.H. (N.Z.), N.D.H. (N.Z.) was chairman of the Board. During his absence, Mr. C. M. Smith, A.H.R.I.H.(N.Z.), acted. Professor H. D. Gordon has more recently taken up the chairmanship for the remainder of the year. Our thanks are due to these men for undertaking this important position.

(b) A separate Report from the Examining Board is appended. The Dominion Council places on record its sincere appreciation of the work of the Examining Board over the years, and particularly during the year under review. Each member of the Board has given much time and thought, even although not being able to attend every meeting, in discharging his responsibilities relating to the examinations.

The congratulations of the Dominion Council are extended to those candidates who were successful at the 1957 examinations. To those who were unsuccessful for one reason or another, a word of encouragement is given, so that they will press on toward the goal until ultimate success is achieved. The inauguration of the David Tannock Memorial Prize at the 1957 examinations is very gratifying. It is hoped that this special award, along with the two existing awards — the Cockayne Gold Medal and the J. A. Campbell Memorial Prize — will give added incentive to students to reach for the highest possible standard of work. This should always be the objective.

The continued financial support of the Government, in the form of an annual examinations grant is sincerely appreciated and hereby gratefully acknowledged.

**10. UREWERA COUNTRY — TIMBER MILLING:** The Dominion Council has been kept well informed throughout the year on the developments in this very important project, and on the plans for the preservation of forest areas. The Dominion Council recognises the rights of Maori land-owners to mill the timber growing on their own land and also is fully conscious of the need to preserve as much of our remaining virgin native forests as

possible. It is believed that the present plans for Urewera are working out satisfactorily, with both interests being served, and a right relationship being maintained between the parties concerned. It is most gratifying to know that already 6% of the total area of New Zealand is reserved in National Parks. Care has to be exercised, however, lest too great an area becomes locked up in this way, thus creating a real danger of having to release some portion for milling in future years. If this happened it would cut at the very root of the whole system of national parks in our Dominion.

**11. SALES TAX ON HORTICULTURAL VASES:** Through the representations of the Dominion Council to the Controller of Customs, horticultural vases of kinds approved by the Minister of Customs were exempted from Sales Tax with effect from 4th September, 1957.

**12. LIFE-MEMBERSHIP SUBSCRIPTIONS:** As requested at the last Dominion Conference the Dominion Council has reconsidered the rates of subscriptions payable for life-membership, and a new scale of rates is the subject of a recommendation for the consideration of the forthcoming Annual Conference.

**13. DAVID TANNOCK MEMORIAL PRIZE:** The Dominion Council was pleased to donate the sum of £20 to this Fund to make the total of this Prize Fund up to £100. Further reference to this fund is made in the Report of the Examining Board.

**14. "NEW ZEALAND GARDENER":** Very careful consideration was given by the Dominion Council to the arrangements existing for the distribution of the "New Zealand Gardener" amongst our members. Following upon this consideration, it was resolved to discontinue the arrangements as from 1st October, 1957. The official Journal of the Institute, "New Zealand Plants and Gardens," is now being distributed free to all financial members of the Institute. The Dominion Council wishes to place on record its appreciation of the service being rendered by the publishers of the "New Zealand Gardener" to the readers of horticultural and gardening literature.

**15. INTERNATIONAL HORTICULTURAL CONGRESS, 1958:** At the last International Horticultural Congress, New Zealand delegates had offered to contribute cultivar names to the two genera, Hebe and Leptospermum, for presentation at the 1958 Congress. To the Institute has fallen this privilege, and to this end the Dominion Council appointed a small sub-committee to go fully into the subject. This committee has made good progress and should shortly be in a position to submit its report.

**16. PATRON:** With pleasure it is announced that His Excellency the Governor-General, Lord Cobham, has honoured the Institute by accepting the office of Patron. In recording this acceptance of office, the Dominion Council expresses its gratitude for, and deep appreciation of, the interest taken by the former Governor-General, Lord Norrie, not only in the affairs of the Institute but also in horticulture generally. For having served the Institute as Patron for the term of his office in New Zealand, we record our sincere thanks to Lord Norrie.

**17. MEETING OF DISTRICT COUNCIL PRESIDENTS AND SECRETARIES:** The proposal for such a meeting was placed before the Dominion Council by the Wanganui District Council. It was quite favourably received and passed on to the District Councils for their consideration. There was a mixed response to the proposal. In principle the proposal was generally supported, but there was division of opinion on the actual staging of the meeting. Some favoured it being held at the time of the Annual Conference, others in the mid-year. Expense was a major factor to be considered. Some felt that the Presidents and Secretaries should be encouraged, rather, to attend the Annual Conferences more regularly, and even the meetings of the Dominion Council. Informal discussions between District Officers on purely District Council and Institute matters should prove helpful and beneficial, if the discussions can be arranged without inconvenience.

**18. THANKS:** The very sincere thanks of the Dominion Council are extended to all who have contributed to the successful functioning of the Institute during the past year. In particular to—

- (a) The Government of New Zealand, Ministers of the Crown and Departmental officers. Their sympathy and courteous attention to the needs of the Institute, whenever these have been brought to their notice, has been most encouraging.
- (b) Local Bodies for their continued interest, and their financial support, and to their Directors and Superintendents of Reserves.
- (c) Examiners and others who assisted in the conduct of the examinations last year.
- (d) The District Council Presidents and Executives who have kept the work of the Institute so successfully before the public in their respective localities.

**19. CONCLUSION:** The ability to behold and enjoy the beauties of Nature, the knowledge of her ways whereby she clothes the earth with her beauty, the skilful understanding of the intricacies of her productivity, and the recognition with gratitude of her bountiful contribution to the wellbeing of man are but some of the virtues with which the human race has been endowed. The degree to which we enjoy these virtues rests with each one of us, and not only to enjoy them ourselves but to share them with and impart them to our neighbours. It is in this respect that the Royal New Zealand Institute of Horticulture is proud of the part it plays in the lives of the people of our Dominion. The gathering in and imparting of horticultural knowledge, the encouraging of every academic and practical advancement of the profession of horticulture, the developing of the love of horticulture are among the chief aims of the Institute. The measure of success these aims achieve depends upon the continued goodwill and whole-hearted co-operation of all members of the Institute. It is most gratifying to me and has also been a distinct encouragement, to have had this full support throughout the year, not only from the general membership, but also from each and every member of the Dominion Council. They have all displayed enthusiasm and a deep concern for the progress of the Institute, so that the Institute may continue to carry on its work with the dignity and influence that should characterise a body which is honoured by the use of the title "Royal."

JOHN HOUSTON, LL.B.,  
Dominion President.

### ROYAL NEW ZEALAND INSTITUTE OF HORTICULTURE (INC.) THIRTY-FIFTH ANNUAL CONFERENCE.

The Thirty-fifth Annual Meeting and Conference of Delegates was held at Wanganui on Thursday, 13th February, 1958.

The President, Mr. John Houston, LL.B., of Hawera, who presided over a very good attendance of delegates and representatives from various affiliated organisations, warmly welcomed delegates and visitors to the Conference.

The Conference was officially opened by the Deputy-Prime Minister and Minister of Agriculture, the Hon. C. F. Skinner. In his remarks, Mr. Skinner expressed his pleasure at having been invited to open the Conference because the Institute occupied a unique position in New Zealand which was predominantly agricultural and horticultural in character. Mr. Skinner paid a warm compliment to the Institute for the work it was doing. He referred to "Mother Earth" — an appropriate expression, he thought — as being the source of all our supplies, the storehouse of all our needs, a pathway for our feet, and a resting place for our worn-out bodies. The

wastage of our "mother earth" would be sacrilege and vandalism — she must be preserved for posterity and we are but trustees holding her in trust for those who are to come after us. We must execute our trust faithfully. It is true that "man does not live by bread alone," said Mr. Skinner, and he had found that horticulturists had produced some very beautiful and exotic plants which had brought endless pleasure and beauty into our lives. Our aim should be to preserve our land, make it even more productive than it is now, and then pass it on to our children in this preserved and improved state. As Minister of Agriculture, he would do all in his power to assist in this ideal. The Horticulture Division would also give every assistance it could.

The Minister was accompanied by the Mayor of Wanganui, Mr. Millward, and Mr. R. E. Jack, M.P. for Patea. His worship the Mayor extended a civic welcome to delegates and expressed his congratulations to the Hon. Mr. Skinner on his appointment as Deputy-Prime Minister and Minister of Agriculture. Mr. Millward went on to congratulate the organisers of the Floral Fair (the Wanganui District Council of the Institute and the Wanganui Horticultural Society) which had been a thrill to him.

Sir Robert Macalister, of Wellington, suitably responded to the opening address of the Minister, and the welcome of the Mayor, and sincerely thanked Mr. Skinner for accepting the invitation and sparing the time to attend. His address had been inspiring and had revealed a deep sense of responsibility towards Agriculture and Horticulture, which spreads into practically every home in the Dominion. The standard of horticulture in the Dominion was very high, said Sir Robert, but still much remained to be done by the Institute in future years. The Institute accepts the sacred trust that the Honourable Minister had mentioned.

While the Honourable Minister was still in attendance, the Dominion President announced that His Excellency the Governor General, Lord Cobham, had graciously accepted office as Patron of the Institute. He thereupon nominated the Honourable C. F. Skinner, Minister of Agriculture, for the office of Vice-Patron. Mr. Skinner replied that he was very pleased to accept office and the honour associated therewith.

#### **President's Address:**

The Dominion President, Mr. John Houston, at the commencement of his address thanked the Wanganui District Council for the invitation to hold this, the 35th Annual Conference, in Wanganui. He congratulated them on the arrangements made for the Conference and on the excellent Floral Fair which had been organised in conjunction with the Wanganui Horticultural Society.

The President considered the most important activity of the Institute was the conduct of examinations and the issuing of diplomas and certificates under statutory authority, in six separate spheres of horticultural endeavour. This work was entrusted to the Examining Board appointed by the Dominion Council and exercised influence over the youth of our Dominion. The standard of these examinations was high, and the President was confident that this high standard would be maintained at all times.

Secondly, Mr. Houston spoke of the Official Journal of the Institute "New Zealand Plants and Gardens." He expressed his congratulations to the Editor, Mr. G. A. R. Phillips, and stated that many messages of appreciation and goodwill had been received from readers inside and out of New Zealand.

Thirdly, the President expressed his pleasure at the position of the finances and membership of the Institute. He paid tribute to the work of the Finance Committee, under the chairmanship of Mr. J. F. Living, F.R.I.H. (N.Z.), which was working along very sound lines. In recent years good progress had been made and this largely was due to the members themselves. Mr. Houston encouraged the members to continue to press on, for it was through the activities of the District Councils that the Institute expressed itself.

**In Memoriam:** The President spoke of the affectionate memories of the esteemed members whose decease had occurred since the last Dominion Conference, amongst whom were:—

Dr. R. W. B. Oliver (Wellington), Life Member.

Mr. H. J. R. Cutler (Auckland), Associate of Honour.

Dr. H. H. Allan (Wellington).

Lady Norwood (Wellington), F.R.I.H.(N.Z.).

**Associates of Honour:**

Upon the recommendation of the Dominion Council, the nominations of Dr. G. H. Cunningham, of Auckland, and Mr. A. M. W. Greig, of Wellington, for election to the high office of Associate of Honour of the Royal New Zealand Institute of Horticulture, A.H.R.I.H.(N.Z.), came before the Conference.

The citations in support of these two nominations were read to the meeting, and then, on the motion of the President, seconded by Dame Elizabeth Gilmer, A.H.R.I.H.(N.Z.) it was unanimously resolved that the distinction of Associate of Honour be bestowed upon Dr. G. H. Cunningham and Mr. A. M. W. Greig.

Opportunity was taken during his attendance to invite the Honourable Minister of Agriculture to present the inscribed certificate to Mr. Greig. (Dr. Cunningham was not present). The Honourable Minister eulogised the work of Mr. Greig and sincerely congratulated both recipients on the distinction that had been accorded them.

Mr. Greig suitably replied.

**Dominion President:**

Just prior to the adjournment for morning tea, Mr. A. W. Green, A.H.R.I.H.(N.Z.), of Hamilton, expressed the gratitude of the Institute, and the members, that the Dominion President, Mr. John Houston, had recovered from his recent illness sufficiently to permit him to attend and preside at this Conference. Jovially, Mr. Green likened him to a tree that had been heavily pruned and was now coming forward again with fresh vigour and growth. He conveyed the good wishes of all present for continued improvement and restoration to full health.

**Annual Report:**

The Annual Report for the year ended 30th September, 1957, had been previously circulated amongst District Councils and delegates.

The Report was therefore taken as read and adopted without discussion.

(The Report is published in this issue).

**Financial Statements:**

The financial statements for the year ended 30th September, 1957 had also been previously circulated. The Chairman of the Finance Committee, Mr. J. F. Living, F.R.I.H.(N.Z.) moved the adoption of the Accounts, after explaining certain features and items of income and expenditure. The year had been a difficult one with certain changes having taken place, but by the end of the current year the position should have become more consolidated. Mr. Living drew attention to the income and expenditure relating to examinations and explained that a considerable amount of the Dominion Secretary's time was taken up with the administration of these examinations.

The Statements were duly adopted without further discussion.

**Examinations:**

The Report submitted by the Examining Board had been previously circulated, (it is published in this issue) and was adopted without discussion.

**Publications:**

The Report of the Publications Committee was presented by Mr. A. M. W. Greig, chairman of the Committee. (The Report is published in this issue).

The report was duly adopted. The editor, Mr. G. A. R. Phillips, being present, was introduced to delegates, and invited to speak. In his remarks, Mr. Phillips emphasised the need for articles on New Zealand subjects by

New Zealand authors. He wanted the Journal to be representative of the whole of New Zealand, as it was being widely distributed in the Dominion and overseas.

#### **Soil Conservation:**

This Report was circulated at the Conference and introduced by Mrs. O. D. Du Pont, F.R.I.H.(N.Z.). (The report is published in this issue.)

District Councils were the "ears" and "eyes" of the Institute and should bring to the Dominion Council their observations of any soil or forest wastage in their areas.

Mr. R. Syme, a member of the National Parks Authority, was present and reassured the Conference that the right action was being taken at Urewera, where considerable interest had been aroused in timber-milling operations by Maori land owners. Recently 330,000 acres of Crown land in this area had been vested in the National Park Authority, and this action by the Government had reassured the neighbouring Maori owners of the sincerity of the Government to see the forest preserved. Mr. Syme stressed the danger of locking up too great an area in National Parks. An error in this direction would probably lead to some having to be released for milling in later years, and if that happened it would strike at the very root of the system of National Parks.

The Report was duly adopted after much discussion and the Committee thanked for their work. It was agreed that no further action by the Institute was called for at present.

#### **District Council Reports:**

Reports were presented by Whangarei, Canterbury, South Taranaki, North Taranaki, Waikato, Wanganui, North Wairoa, Wellington, Otago, and Auckland District Councils. All reports indicated healthy activity with regular meetings and other functions.

One excellent feature was reported by the Wanganui District Council, namely, the "Plant of the Week" display at the Wanganui Public Library. For more than five years now this display had been organised, and at no time had the same plant been displayed more than once. This was excellent publicity for the Institute.

The President congratulated the North Wairoa District Council on the progress they have made since being established in 1954. This is the youngest District Council.

#### **International Society of Horticultural Science:**

A letter from the Director-General of Agriculture, Mr. R. B. Tennent, seeking the opinion of the Conference on the establishment of, and New Zealand's membership therein, the International Society of Horticultural Science as a permanent establishment for the free exchange of horticultural information between countries.

After discussion, it was resolved to recommend to the Director-General that New Zealand become a member of the proposed International Society and that the expenses relating to such membership be met by the New Zealand Government.

Furthermore, it was resolved that the Institute also become a member of the Society at an annual cost of ten dollars.

#### **Cultivar Names:**

Mr. J. P. Salinger reported on the progress made by the small sub-committee appointed by the Dominion Council to deal with the registering of Cultivar names for the two genera *Hebe* and *Leptospermum* at the 1958 International Horticultural Congress.

The report was received and the Committee thanked for their work.

**Life Membership:**

On the recommendation of the Dominion Council, the following scale of subscription rates for Life-Membership was adopted, to take effect from 13th February, 1958. (Rule 3(c) of the Institute's Constitution).

For applicants up to and including 30 years of age	£25
For applicants from 31 to 40 years of age	£20
For applicants from 41 to 50 years of age	£15
For applicants over the age of 50 years	£10

**Membership:**

Sir Robert Macalister, A.H.R.I.H.(N.Z.) (Wellington) presented a report on the subject of membership, tracing the growth of the Institute over the years and emphasising the importance of the work being performed by the Institute, the need for strong and active District Councils, the establishment of new District Councils where warranted, greater publicity for the objects, functions and Dominion status of the Institute, and further extension of the general membership including the election of more Fellows. Many delegates spoke on the subject, endorsing what had already been said.

Mr. A. M. W. Greig (Wellington) said he would like to see the Institute in the position of really representing and speaking for all interested horticultural bodies, on national issues. To achieve this, the Institute needed a closer affiliation with these other horticultural organisations. Mr. P. J. Cox (Wanganui), thought the Institute was still young, compared with many very old established horticultural groups, and it might therefore take another ten years or so before the Institute could attain to this position of seniority. Mrs. M. Martin (Whangarei) felt that District Councils were too far removed from one another.

**Fellowship Certificates:**

At a suitable opportunity during the proceedings, the Dominion President congratulated Mrs. C. A. McLeod and Mr. F. H. Bethwaite, both of Wanganui, upon their election to the status of Fellows of the Institute, and presented them with their certificates.

**Remits:**

(1) (from North Taranaki) . . . "That this Council recommend to the Dominion Council that a very strong protest be forwarded to the Government in connection with the proposed destruction of the Aratiatia Rapids on the Waikato River."

Mr. V. C. Davies, A.H.R.I.H.(N.Z.), of New Plymouth asked leave to withdraw the remit, as he had very recently learned that the Authorities have now taken steps to preserve the Aratiatia Rapids. The Remit was withdrawn.

(2) (from Auckland) . . . "That capitation fees be increased to 25 per cent. of the current subscription as suggested in the minutes of the Dominion Council Meeting of the 20th November, 1956, or that alternatively the capitation be at a flat rate of five shillings per member."

In introducing this remit, Mr. J. A. Hunter stated that the Auckland District Council did not wish to embarrass the Dominion Council financially by making such a request, but nevertheless felt a realistic view must be taken of the amount of capitation District Councils were receiving. It was not sufficient to meet the increasing expenses.

The remit was supported by Whangarei District Council in principle, but not the amount. Whangarei would like to suggest that it be 50% not 25%, of membership fees.

The Chairman of the Finance Committee, Mr. J. F. Living, pointed out that if the remit were adopted, the Dominion Council could not afford the increased expenditure and revenue would have to come from elsewhere, probably further increases in subscription rates. The Finance Committee was aware that Capitation did not cover the outgoings of District Councils — nor was it ever intended to do so — they must supplement it by other means. The Finance Committee had resolved to ask Dominion Conference to defer



making any increase in Capitation rates for the present, and to await the completion of the current year (1958) when they would review the position, and recommend an increase if such could be granted in the light of the finances then.

North Taranaki and Canterbury District Councils disfavoured any increase. At the invitation of the President, in view of the explanation of the Chairman of the Finance Committee, the Auckland Delegates withdrew the remit, but again pointed out that the strength of Dominion Council lay in the representation of District Councils at their meetings, and, without finance, District Councils could not send delegates to the regular Dominion Council meetings.

(3) (from Whangarei) . . . That in order to assist District Councils far from Wellington to attend Dominion Council meetings at little expense, the Dominion Council meet once a year at Auckland and once at Christchurch, the remaining meetings being in Wellington as at present."

Mrs. M. Martin, F.R.I.H.(N.Z.), of Whangarei, introduced the remit and stated that it was too expensive for delegates from Northland and other distant places to attend meetings of the Dominion Council in Wellington, and because of this, the District Councils were not being represented.

The Chairman of the Finance Committee conceded the point but pointed out that the Dominion Council also was not able to meet these expenses for delegates. The Dominion Secretary's expenses in travelling, when attending meetings away from Wellington would have to be met by Dominion Council. The Dominion Secretary stated that it would be difficult for him to attend meetings away from Wellington. It would be very doubtful whether many of the Councillors, who now regularly attended meetings and who formed the backbone of the Dominion Council would be able to attend meetings in Auckland, Christchurch and Wellington so as to ensure continuity in the attention required by the detailed affairs of both the Dominion Council and the Examining Board. This would then be detrimental to the Institute as a whole.

The Annual Conference is held in different centres and this gave good opportunity for all to attend at some time or other.

If Dominion Councillors were informed of the meetings and other activities of District Councils, some might even be able to attend them from time to time. Mrs. M. Martin stressed that there is insufficient liaison between the District Councils and the Head Office. District Councils, on the other hand, should keep the Dominion Council more informed on their activities and specifically invite Dominion Councillors to attend, if possible. The Remit was finally put to the meeting and lost on voices.

#### **Dominion President:**

Mr. John Houston, of Hawera, was enthusiastically and unanimously re-elected Dominion President for the ensuing year.

#### **1959 Dominion Conference:**

The invitation of the South Canterbury District Council to hold the 1959 Conference in Timaru was accepted. This invitation was supported by a similar one from the Town Clerk of Timaru, 1959 being South Canterbury's Centennial Year.

#### **Use of Fern Fibre for Orchids:**

The increasing use of fibre from native ferns for the growing of orchids was brought to the attention of the Conference by Mr. M. C. Gudex, A.H.R.I.H.(N.Z.), of Hamilton. Several members spoke on this practice, which was generally deprecated, and the Dominion Council was asked to enquire further into it. The use of Punga Ferns for fences at Wairakei Hotel, by the Tourist Hotel Corporation, was also severely criticised, and referred to the Dominion Council for further consideration.

The Conference was brought to a close at 3.25 p.m. when the President expressed sincere thanks to the local District Council for the hospitality extended to delegates and visitors, and for their attention which had helped to make the 35th Annual Conference such a happy experience.

Following on from this, it had been arranged for Messrs. E. Hutt, A.H.R.I.H.(N.Z.), Director of Reserves, Wellington, and J. W. Goodwin, Superintendent of Reserves, New Plymouth, to give a talk, illustrated with slides, on their recent overseas experiences at the International Parks Conference in England. Lighting conditions prevented the screening of the slides, and the talk, with illustrations, was eventually given following the Banks Lecture in the evening. The talk and slides were much appreciated by all present, and a hearty vote of appreciation was expressed to both gentlemen.

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### VALE DICTORY

While we are occupied in our garden tasks, we are not conscious of being old or young, but only of being a part of surging, growing life.

Flowers bud and open; they wither and they fall. They draw in nourishment from earth and air, from water and sun. They are pollinated, make seed and scatter it, in a cycle as irresistible, and as precisely synchronised as the movements of the stars and the planets. They are part of the rhythm of life, just as we are part of it. They companion us through every mood.

Thus it is that every true gardener is ever a beginner, and has always a confidence in the future that lightens the way ahead like a flame.

JOHN HOUSTON,  
President.

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### REPORT OF COMMITTEE ON SOIL CONSERVATION AND BUSH PRESERVATION IN NEW ZEALAND

The Dominion Council of the Royal New Zealand Institute of Horticulture appointed a committee to review the question of soil conservation and bush preservation in New Zealand. Members of the Committee were Mrs. O. D. du Pont (Convenor), Messrs. D. Cameron, D. A. Campbell, A. M. W. Greig and W. H. Jolliffe.

In order to obtain a comprehensive review the Committee sought the co-operation of the New Zealand Forest Service, the Department of Lands and Survey and the Soil Conservation and Rivers Control Council, and is indebted to these organisations for the information supplied to the Committee. Abstracts and data from these reports indicate that nearly one-quarter of the total area of New Zealand is still under forest cover of which the Forest Service controls 53%, other Government departments 21%, whilst Maori land is 9% and freehold areas 17% of the total. The Forest Service is responsible for 9½ million acres including about ½ million acres of exotics and 6 million acres have been classified as protection forest. The Committee is of the opinion that N.Z. Forest Service is fully alive to its responsibilities in respect to protection and it is reassuring to find it so. Recently the responsibility for the control of animal pests in New Zealand forests was transferred to the N.Z. Forest Service and the Committee considers this is a move in the right direction as this department has the staff, facilities and knowledge to handle this major problem.

The Lands and Survey Department controls the scenic reserves and is also responsible for soil conservation, through Marginal Lands Boards. This department financially assists farmers in measures taken to conserve soil. The scheme is particularly active in the Wanganui district. The Lands Department also controls National Parks, Public domains and the high country pastoral runs of the South Island. When it is realised that the area of National Parks alone is 3,583,710 acres, the extent of the Lands Department's interest in soil and bush preservation is appreciated. The department is continually on the look-out to acquire more land for National Parks. Scenic reserves total 893,700 acres and Public domains 81,995 acres.

The Soil Conservation and Rivers Control Council co-ordinates the activities of several Government departments, councils and other interested bodies, thus bringing together a wealth of knowledge and experience to bear on its duty of controlling water and soil. It was this Council which set up 13 Catchment Districts covering 70% of the area of New Zealand and also organised and financed the initial aerial topdressing trials. River control works and drainage schemes, tree planting and fire control are Council activities towards water and soil conservation.

Probably nowhere in the world are there so many Government departments and local bodies working so enthusiastically towards a common goal. While there are still some areas of indigenous forest being felled, (a matter for regret) the overall picture is one of enlightened conservation and protection and if maintained, augers well for the future. The Urewera National Park comprises the most extensive area of native forest in the North Island and the Committee feels confident that as other areas become available they will be preserved for posterity.

In order to verify these findings by the observations and reports of members of the Institute throughout the country, Dominion Council circulated all District Councils but your Committee regrets to report that with one or two noteworthy exceptions, District Councils supplied little information on this important subject.

In conclusion the Committee acknowledges the wholehearted co-operation of the several Government departments which submitted reports on their activities without hesitation. These form the basis of this report and made the work of the Committee much easier.

For the Committee,

Mrs. O. D. DU PONT,

Convenor,

12th February, 1958.

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### REPORT OF THE PUBLICATIONS COMMITTEE

The Publications Committee members are Mrs. A. J. Du Pont, Messrs. Dallas, Hutt, Living, Sired and Salinger, the Dominion Secretary, the Editor and myself as Chairman.

The Publications Committee has met five times during the past year and has had full discussion on a wide range of subjects relating to "New Zealand Plants and Gardens."

The Committee has given particular emphasis to the necessity to maintain the high standard established in volume II (December, 1956 issue) under the Editorship of Mr. G. A. R. Phillips and I think you will agree that Mr. Phillips is doing a very good job as Editor. Not only are there excellent general articles, but District Council and Dominion Council reports are all adequately covered.

Even though quality has been our first objective the Committee has been concerned with the high cost of production, mainly the cost of printing. Quotations were therefore obtained from a number of printing firms, both within and outside Wellington. Those from outside Wellington were all below the present printing charges and the Dominion Council has given approval for the printing to be carried out by the Stylex Print Co., Palmerston North. This should make a saving of approximately £60 per issue. This firm will produce the next issue, in late March, 1958, and I am sure that you will find no reduction in quality, whilst the cost to the Institute is reduced.

The Committee has discussed the question of copyright and on its recommendation Dominion Council decided that all articles become the property of the Institute on acceptance and may not be reproduced without permission. Decisions have also been made regarding reprints.

Reprints are supplied on the following basis. If no payment is made for the article, 15 reprints are supplied free on request; additional reprints are chargeable at £2/5/- per 100. If the article is paid for, all reprints are chargeable.

Two less satisfactory aspects are the questions of membership and advertising. With a reduced membership, the average cost per member per copy automatically increases. Additional copies can be produced quite cheaply so the Committee recommends that every effort should be made to obtain more members and to obtain more advertisements, thus reducing the cost to the Institute. Some District Councils have been most helpful, whilst others appear to have done little regarding advertisements. A personal approach both to individuals and horticultural firms should assist in these matters. The Dominion Secretary will provide all the required information on these two matters.

The Committee considers and approves the contents of each issue before publication. Two recent changes are the publication of selected papers given at the New Zealand Institute of Parks Administration conference by permission of that organisation, and the possibility of publishing a separate section on a specific plant such as lilies at the request of the specialist society concerned.

In conclusion I wish to thank all members of my committee for their continued co-operation and the time and thought they have given to the Journal. Members of the Institute can best express their appreciation by giving support in the supply of articles, by obtaining advertisements and by obtaining a wider circulation through increased membership.

A. M. W. GREIG,  
Chairman.

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**Citation in support of Nomination of  
Mr. ARTHUR M. W. GREIG, B.Sc., N.D.H.(N.Z.), F.R.H.S.,  
nominated by the Wellington District Council, for election as an Associate  
of Honour of the Royal New Zealand Institute of Horticulture.**

Arthur M. W. Greig has had an association of nearly 30 years with horticulture in New Zealand and has for the past twenty years been a member of the Institute.

Born in Manchuria, Mr. Greig came to New Zealand at the age of 14 to continue his educational studies at Wellington College and Victoria University College from where he graduated in Science in 1928 having advanced in Chemistry. He then spent eight years at Kerikeri as a citrus and passion-fruit grower.

Since joining the Department of Agriculture in 1937, Mr. Greig has spent—

- 6 years as Orchard Instructor and Citriculturist;
- 4 years as Investigating Officer attached to the Minister of Agriculture; and
- 9 years as Director of the Horticulture Division.

On joining the Department Mr. Greig resumed his University studies in Botany and in 1941 was awarded the National Diploma in Horticulture (N.Z.) by examination having been granted exemptions as the holder of a B.Sc. degree. He subsequently in the years 1941-42 took University Botany to Stages II and III.

As a regular member of the Dominion Council Mr. Greig has attended all annual conferences since appointed Director of the Horticulture Division. In this capacity his special activities have included:—

- (a) As a member of the Examining Board since 1949, and in particular he has promoted the establishment of the:—
  - Diploma in Fruit Culture;
  - Diploma in Beekeeping; and
  - Certificate in Vegetable Culture.
- (b) Chairman of the Publications Committee 1956-57.
- (c) Chairman of the Sub-committee on Urban Sprawl.
- (d) Assisted in the re-registration of the Constitution.

Since 1949, Mr. Greig has served as Chairman of the Loder Cup Committee.

A member of the International Committee for Horticultural Congresses, Mr. Greig represented New Zealand at the 13th International Horticultural Congress in London in 1952. He was Chairman of the Citrus Section and presented a paper on subtropicals grown commercially in New Zealand. With four others he was made an Honorary Fellow of the Royal Horticultural Society during the Congress.

Mr. Greig is Chairman of the Vegetable Research and Extension Advisory Committee and is regularly in attendance at Annual Conferences and Executive meetings of the Dominion Council of Commercial Gardeners Ltd.

A member of the Fruit Research Committee, Mr. Greig has attended most annual conferences of the N.Z. Fruitgrowers' Federation Ltd. and of the N.Z. Citrus Council.

Mr. Greig is Chairman of the Nursery Stock Research and Extension Advisory Committee and is regularly in attendance at the Annual Conference of the Horticultural Trades Association.

Over a number of years Mr. Greig has been associated with or played an active part in various economic and market phases of horticulture such as —

- Costs of production of horticultural crops;
- War-time vegetable contracts;
- Citrus canker eradication campaigns;
- Fruit Marketing Council — Chairman 1947-48.
- Honey Marketing Commission — Chairman, 1948.

As Divisional Director of Horticulture in the Department of Agriculture, Mr. Greig has been responsible for the complete reorganisation of the Division. Advisory services have been separated from inspectorial duties and recruitment of Instructors is now based on degree and diploma holders. Specialist advisory services have been established in fruit, vegetables and ornamentals, including three Horticulturists at Auckland, Wellington and Christchurch.

During his term of office most of the acts and regulations administered by the Division have been revised. New legislation has been introduced to establish the Plant Quarantine Service, which is of both national and international significance.

For a number of years he wrote the citrus notes for the "Journal of Agriculture" and is the author of several departmental bulletins on sub-tropical fruit culture. He has recently had published an article on Technical Administration, a subject in which he has played an active part.

In a private capacity Mr. Greig is a member of the Pukeiti Rhododendron Trust, the Wellington Horticultural Society, and the N.Z. Association of Agricultural Science.

Mr. Greig was for five years a member of the Wellington Colleges Board of Governors and is now Government member of the Wellington East Girls' College Board of Governors. He has served on College Parents' Association Executives and on his residential district Progressive Association. Although no longer an active participant he is still keenly interested in Rugby football and lawn tennis.

To all these various activities Mr. Greig has contributed the vitality, enthusiasm, thoroughness, tact and progressiveness which are so characteristic of him. Horticulture in New Zealand is greatly indebted to him for the fine contribution which he has given and will continue to give.

**Citation in support of the Nomination of****Dr. G. H. CUNNINGHAM, AUCKLAND,****Nominated by the Dominion Council, for Election as an Associate of Honour of the Royal New Zealand Institute of Horticulture.**

Dr. G. H. Cunningham was born and educated in Otago. On leaving school he began work on a Roxburgh Orchard, later working in both Victorian and Tasmanian fruit districts to widen his experience. After returning to New Zealand he took up land near Mapua and planted a pip fruit orchard that is still full bearing. At the outbreak of war in 1914 he volunteered, joined the 14th South Otago Infantry Regiment and sailed with the Main Body. After being seriously wounded at Gallipoli he was invalided home.

In 1917 he joined the Department of Agriculture as Orchard Instructor. Being keenly interested in the diseases of plants and their control, he was attached to the Biological Laboratory of the Department in 1919, first at Weraroa, then later at Wellington. During the next few years, in addition to his official work he pursued science studies at Victoria University College. These culminated in the conferment of a Ph.D. degree in 1926 and a D.Sc. in 1931.

In 1925 he published his book "Fungous Diseases of Fruit Trees in New Zealand and their remedial Treatment," which immediately became the standard reference of New Zealand Fruit growers, was used as a text book overseas, and remains a valuable source of reference even to this day.

Early in his career Dr. Cunningham realised that correct diagnosis of plant pathogens was an essential first step in disease control. Finding difficulty in securing identification of pathogenic fungi by sending them to overseas authorities he undertook studies on fungous classification. He developed an absorbing interest in this field of research and is now a world authority on fungous taxonomy. Yet his main concern has always been to help the man on the land by devising efficient methods of disease and pest control. To this end he built up and inspired a group of plant pathologists, who were given the task of controlling all plant diseases in the country. He led this group in a search for better materials and more efficient means of application.

A series of studies by Cunningham and his team at the Plant Research Station resulted in the publication of "Plant Protection by the Aid of Therapeutants" in 1935. This book dealt not only with spray materials and methods for protection of fruit trees but also with dusting, fumigation of glass houses, seeds and nursery stocks, disinfection of tubers corms, and bulbs, soil disinfection, fruit storage problems, and tree surgery all discussed from the viewpoint of the practical man. It is no exaggeration to say that at this time the New Zealand Horticulturist had a research and an advisory information service which few if any other countries in the world could equal.

Dr. Cunningham's dissatisfaction with the quality and type of some of the spray materials on the market led to the establishment of the voluntary scheme for "Certification of Plant Therapeutants" which has been of immense value to all plantmen, and has been widely copied in overseas countries.

By 1941 it was clear to Dr. Cunningham that drastic action was necessary to arrest the steady decline in orchard acreage. His staff had demonstrated that the replanting problem in apple orchards could be solved by using new stocks that he had imported in 1929. To ensure that growers could get these stocks he pressed hard for establishment of a growers' nursery. His objective was achieved in 1943 when the New Zealand Fruit-growers' Federation opened a nursery at Levin. From this nursery growers can buy "pedigree" trees, on the best available rootstocks and raised from specially selected budwood trees.

Thanks to Dr. Cunningham's foresight and persistence growers can now replace trees which have died and plant new blocks in the sure knowledge

that their trees are equal to the world's best. Many overseas visitors of long fruit experience have been openly envious of this co-operative nursery.

Dr. Cunningham co-operated with the Institute in drawing up the syllabus for the N.D.H. (N.Z.) examination and was for many years one of the Institute's examiners.

Dr. Cunningham's fundamental studies of N.Z. fungi, for which he has received numerous honours including the Fellowship of the Royal Society of London, are to be continued after his official retirement as Director of the Plant Diseases Division in September, 1957. By then he will have completed 40 years service with the Department, and by special arrangement is to continue his taxonomic studies.

His work outlined above, and the wide contributions made to all fields of horticulture by himself and the Plant Diseases Division under his control, merit the bestowal of Associate of Honour of this Institute.

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### R.N.Z.I.H. ANNUAL CONFERENCE, 1958

#### SOME IMPRESSIONS OF THE CONFERENCE

The 35th Annual Meeting and Conference of Delegates was held in Wanganui commencing on Thursday, 13th February, 1958 under the chairmanship of the Dominion President, Mr. John Houston.

It was gratifying that the President had recovered sufficiently from his serious illness to take the chair and conduct the Conference in a firm but genial manner. Over 100 members attended, representing 16 District Councils, and the agenda of 24 items was disposed of expeditiously but with ample opportunity for discussion.

The Conference was officially opened by the Hon. C. F. Skinner, Minister of Agriculture, who expressed his pleasure in being invited to open a Horticultural Conference. He considered that Horticultural Organisations played an important part in the life of the Dominion and he congratulated the Institute on the work accomplished over the years, particularly in the realms of Scenic preservation and Urban sprawl. He stressed the common bond of the love of the soil — whatever we grow we are contributing something to the welfare of mankind — and also the need to preserve the productivity of soils so that they could be handed down as a heritage to future generations.

Subsequently Mr. Skinner presented Mr. A. M. W. Greig, Director of the Horticulture Division with the certificate of Associate of Honour of the Royal New Zealand Institute of Horticulture for his valuable contribution to Horticulture over the past 30 years. Dr. G. H. Cunningham, formerly Director of Plant Diseases Division, intimately connected with horticulture for over 40 years and also a recipient of an associateship was unfortunately absent.

Reports were presented on behalf of sub-committees on Publications, Soil Conservation, Nomenclature and Membership. In particular the report on Membership requires close study and action by District Councils and in fact more than one representative on the Dominion Council stressed the need for District Councils to take more interest in the work of the sub-committees and in fact be prepared to act as sub-committees of the Dominion Council should the need arise. Mr. Greig pinpointed this matter when he explained that members in Wellington were required to act both on local and Dominion matters. The very fact of their location demanded that they should always be on call to deal with matters of national urgency.

Reports of the activities of the District Councils were presented and aroused much interest, those which had not been printed in the Conference papers were read by representatives and all were stimulating.

One felt that those District Councils which had the largest membership, obtained this by providing a variety of activities for their members. In particular visits were arranged to other districts, both councils thereby co-

operating and increasing mutual goodwill. Wanganui District Council is closely associated with Arbor Day and is carrying out a long term plan to beautify a specific portion of the city over 10 years. With the prior approval of the City Council, members of the District Council pay for trees and the Parks Department then maintain them, Wanganui can already be called the "City of Scarlet Gums" and is ensuring that this title will be retained.

In the evening the Bank's Lecture was presented by Mr. W. R. Stevens who wisely divided his lecture into two parts, Australian plants and South African plants.

Then Messrs E. Hutt and W. Goodwin took members on a visual and verbal trip through many parts of the world that they visited when attending the First International Conference of Parks Administration in 1957.

On the following morning members had the pleasure of seeing many of these plants actually growing on Mr. and Mrs. Stevens' property. Later in the morning a visit was paid to Mrs. E. M. Gower's garden which contained a wealth of interest. In particular the rose species, all legibly labelled were particularly fine and will soon be found in many gardens thanks to Mrs. Gower's generosity in supplying cuttings to all who asked for them.

Then members assembled in the beautiful Aramoho Camping Ground for morning tea and group photographs. This camping ground has well spaced noble trees set in green grass, a children's play area and all the usual facilities. In the afternoon members visited St. John's hill and the spacious home of Mr. and Mrs. Burgess with their beautifully laid out garden, with a fine selection of trees and shrubs. This was followed by a short call at Wanganui's renowned Virginia Lake and Centennial Memorial.

To conclude, the Conference assembled in the attractive gardens of Mr. and Mrs. H. Chittick for tea and farewell.

Thanks are certainly due to all those local willing workers who contributed so much to make the Conference at Wanganui an outstanding success. This same enthusiasm throughout the Institute as a whole should ensure its future growth and development.

On Wednesday evening prior to the Annual Conference, delegates had the pleasure of meeting friends, old and new, and being conducted on a visit by way of coloured slides to parks, gardens and plants in Wanganui and gardens in the district. Several of the delegates addressed a few words to those attending, but there was no formal meeting of District Council Presidents and Secretaries.

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#### FLORAL FAIR — WANGANUI, 1958.

It was with some trepidation that Wanganui District Council decided to hold a Floral Fair in 1958, while the Annual Conference of the Institute was being held. There were no suitable halls for such a display but courage and enthusiasm prevailed and a most attractive exhibition was held in Spriggens Park, the Rugby football ground.

Though not on the same scale as the festival at Whangarei in 1957, Wanganui is to be congratulated on the variety of exhibits and their execution. The most spectacular section was the layout of the 23 floral carpets, and the Convent Old Girls' Association are to be congratulated on their brilliant carpet formed from marigolds in various tonings. The Wanganui District Council won first prize in the tier section with a well executed and original floral clock.

The other exhibits were in adjacent buildings, the District Council filling a small hall with native plants, flowers, fruit, vegetables and decorative displays. Several points were particularly worth noting: all exhibits were labelled including the decorative exhibits which stated the purpose for which they had been arranged, a small wishing well attracted money for charity and the floor was surfaced in moist sawdust thus providing comfort for the many visitors.



There were several trade exhibits including roses, lilies, gladioli, dahlias and begonias, as well as sundries truly applicable to gardening. A move in the right direction on some of these stands was the display of plants in a decorative manner, rather than as individual specimens. The Horticulture Division of the Department had a most interesting stand demonstrating 27 different methods of plant propagation. Great interest was shown in the demonstration of intermittent mist equipment. Officers of the Division have been closely associated in the design of this equipment, specially for New Zealand conditions.

The competitive classes were well supported. The written comments by Miss M. O'Brien, judge of the decorative section on the prize-winning exhibits were of particular value. This should certainly be encouraged if flower shows are to be truly instructive but the judge must be allowed plenty of time, a point which is sometimes neglected.

This floral fair was again evidence that Horticulture encourages both friendliness and co-operation. The Horticultural organisations in Wanganui, such as the Horticultural Society, the Cactus, Rose, Forest and Bird Protection Societies and local horticultural clubs all combined with the Wanganui District Council to produce an attractive and instructive Floral Festival.

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## EXAMINATIONS

A very important part of the work of the Royal New Zealand Institute of Horticulture lies in the conduct of annual examinations in Horticulture, Fruit Culture, School Gardening, Vegetable Culture and Seedsmen's Certificate. The conduct of these examinations and the issuing of diplomas and certificates in these subjects is authorised by The Royal New Zealand Institute of Horticulture Act (and Amendments). The Institute is thus a statutory examining body which seeks to serve the Dominion in a manner befitting the confidence and trust placed in it by the Government of New Zealand and by those closely associated with horticulture, who are looking to the Institute to uphold and maintain a standard of qualification, in this sphere of education, comparable with other examining bodies in the Dominion.

At the close of 1957 statutory authority was granted to the Institute to conduct examinations and to issue diplomas and certificates in the subject of Beekeeping. This new subject will be added to the Examinations Syllabus as soon as the examination prescriptions have been approved by the appropriate bodies concerned.

The Dominion Council of the Institute recognises and pays tribute to the excellent work performed throughout the year by the Examining Board, which is appointed by the Dominion Council and entrusted with the solemn responsibility of prescribing for and conducting these Annual Examinations.

Present members of the Examining Board are: Professor H. D. Gordon (Wellington), Chairman; Mr. John Houston, LL.B. (Hawera), Dominion President; Mrs. H. L. Bennett, F.R.I.H.(N.Z.), (Wellington), Messrs. M. J. Barnett, M.B.E., A.H.R.H.S., N.D.H.(N.Z.), A.H.R.I.H.(N.Z.), (Christchurch), W. K. Dallas, A.H.R.I.H.(N.Z.), N.D.H.(N.Z.), (Wellington), A. M. W. Greig, B.Sc., N.D.H.(N.Z.), A.H.R.I.H.(N.Z.), (Wellington), E. Hutt, A.H.R.I.H.(N.Z.), N.D.H.(N.Z.), (Wellington), D. C. MacKenzie, N.D.H.(N.Z.), F.R.I.H.(N.Z.), (Palmerston North), J. A. McPherson, A.H.R.I.H.(N.Z.), N.D.H.(N.Z.), (Auckland), L. F. Sired, A.H.R.I.H.(N.Z.), (Wellington), C. M. Smith, A.H.R.I.H.(N.Z.), (Wellington), A. White, N.D.H.(N.Z.), (Lower Hutt), M. F. Woodward, M.A. (Upper Hutt).

### REPORT OF THE EXAMINING BOARD

On behalf of the Examining Board I have pleasure in submitting the following Report:—

1. MEETINGS: During the year the board met on five occasions. Set out hereunder is a brief report on the matters dealt with by the Board at these meetings.

2. DIPLOMAS AND CERTIFICATES IN BEEKEEPING: Statutory authority has now been given to the Institute by the Royal New Zealand Institute of Horticulture Amendment Act, 1957, to issue diplomas and certificates in the subject of Beekeeping. Discussions have already been commenced with the National Beekeeper's Association on the scope of the new course and it is expected that examinations in the subject will very soon be added to the Institute's Examinations Prospectus.

Already examinations are being conducted for the following:—

- (a) National Diploma in Horticulture — N.D.H.(N.Z.).
- (b) National Diploma in Fruit Culture — N.D.F.C.(N.Z.).
- (c) Certificate in Vegetable Culture — C.V.C.(N.Z.).
- (d) Certificate in School Gardening — C.S.G.(N.Z.).
- (e) Seedsman's Certificate — S.C.(N.Z.).

3. CERTIFICATES IN VEGETABLE CULTURE (without examination): Statutory authority to issue these certificates to approved persons expired on 31st December, 1956. Altogether a total of 32 such Certificates were issued by the Board.

#### 4. EXAMINATION HANDBOOK, AND "GUIDE TO STUDENTS":

The revised prescriptions relating to the five separate examinations were published during the year in the form of a very suitable and useful handbook, for the convenience of students and future candidates. At the present time attention is being given to the publishing of another edition of the "Guide to Students," amended and brought up-to-date. This little booklet contains many valuable guides and hints to students and furnishes them with an extensive list of recommended text books.

#### 5. CHANGEOVER FROM THE OLD TO THE NEW SYLLABUSES (for the N.D.H., N.D.F.C., and C.S.G., examinations).—

This changeover was accomplished at the 1957 examinations quite smoothly. Certain concessions were available to registered students who had already gained passes under the old syllabus.

#### 6. APPLICATIONS FOR REGISTRATION FOR EXAMINATIONS:

During the year applications were received from new students to be registered for the following examinations:—

National Diploma in Horticulture (N.D.H.N.Z.)	-	-	12
National Diploma in Fruit Culture (N.D.F.C.N.Z.)	-	-	2
Certificate in Vegetable Culture (C.V.C.N.Z.)	-	-	2
Certificate in School Gardening (C.S.G.N.Z.)	-	-	1

There was also one transfer registered from N.D.H.N.Z. to C.S.G.N.Z.

#### 7. SPECIAL PRIZE AWARDS:

For several years now the Institute has offered two special awards to candidates for the National Diploma in Horticulture. At the 1957 examinations a new award was inaugurated, namely the David Tannock Memorial Prize. This prize is endowed by a fund (£100), subscribed to commemorate the horticultural work of Mr. David Tannock, O.B.E., A.H.R.H.S., A.H.R.I.H. (N.Z.), who was one of the founders of the Royal New Zealand Institute of Horticulture and Superintendent of Botanic Gardens, Parks and Reserves at Dunedin from 1903 to 1939. Mr. Tannock trained many apprentices who later occupied responsible positions in horticulture both in New Zealand and overseas. The three special awards now offered annually are:—

- (a) Cockayne Gold Medal to the most successful candidate completing the National Diploma in Horticulture.
- (b) J. A. Campbell Memorial Prize to the most successful candidate completing the Intermediate section of the National Diploma in Horticulture examination.
- (c) David Tannock Memorial Prize to the candidate gaining the highest marks in the Oral and Practical Stage III examination for the National Diploma in Horticulture.

The Cockayne Gold Medal and J. A. Campbell Memorial Prize awards are subject to certain qualifying conditions.

The Successful candidates in the awards for 1957 were:—

- (a) Cockayne Gold Medal — no award.  
 (b) J. A. Campbell Memorial Prize — H. van den Bosch (Christchurch).  
 (c) David Tannock Memorial Prize — L. J. Metaclf (Christchurch).

8. 1957 EXAMINATIONS:—

i.—Results (these are published elsewhere in this Journal.—Editor.)

ii.—Statistics — the following will be of interest:—

N.D.H. Examination		Junior	Intermediate	Diploma
Number of Entries	- -	35	26	9
Number of Passes	- -	15	23	8
Percentage of Passes	- -	42.8	88.4	88.8
Average Marks (Passes only)	-	65.5	61.6	66.2

N.D.F.C. Examination:

Number of Entries	- -	3	—	6
Number of Passes	- -	3	—	5
Percentage of Passes	- -	100%	—	83.3%
Average Marks (Passes only)	-	59%	—	68.6%

C.V.C. Examination—

Number of Entries	4
Number of Passes	2
Percentage of Passes	50
Average Marks (Passes Only)	56.5%

C.S.G. Examination—

Number of Entries	3
Number of Passes	2
Percentage of Passes	66.6
Average Marks (Passes Only)	65%

It was somewhat disappointing to the Board to find that all of the North Island candidates for the Junior Oral and Practical Examination for the National Diploma in Horticulture failed to gain Pass marks. Many of the candidates are horticultural apprentices and it is the opinion of the examiners and the Board that they were not sufficiently experienced or prepared for the practical tests. Perhaps District Council Executives may take this up with a view to seeing what can be done to assist these young candidates to prepare for those examinations.

The congratulations of the Board are extended to all candidates who passed and particularly to those who completed their examinations or any section in 1957.

9. CONSULTATIVE COMMITTEE ON AGRICULTURAL EDUCATION: This committee was set up by and under the auspices of the Education Department under the Chairmanship of Dr. L. J. Wild, to "consider the opportunities open to young people to enter agricultural pursuits of all types and to progress in them; to report on the adequacy of the educational facilities offered for such occupations, and to make recommendations." It was not realised at first that this order of reference was to embrace horticulture too, but the Institute was able to place before the Committee the views expressed by it at the Horticultural Session of the Sixth Science Congress held in Wellington in 1947, which views were still endorsed by the Institute. Furthermore, discussion was had with the chairman of the Committee and this gave further opportunity of placing before him the views of the Institute on the question of horticultural education. The Report of the Committee has not yet been published. It will be received with interest. Careful consideration will be given to its contents, and to any steps deemed advisable and appropriate arising from the report.

10. ACKNOWLEDGMENTS: The Examining Board expresses its thanks to all who have assisted them throughout the year in the successful conduct of the examinations — (a) the panel of examiners; (b) the panel of examiners responsible for the Oral and Practical Examinations (Messrs. M. J. Barnett, E. Hutt, J. E. Hume, M. Richards and their associates); (c) the Christchurch Parks and Reserves Department (the Director, Mr. H. G. Gilpin, and his staff) and Massey Agricultural College, Palmerston North (Professor Peren, Mr. M. Richards, Mr. K. C. Hockey) for the facilities and assistance given in the conduct of the Oral and Practical Examinations at their respective establishments; (d) the honorary supervisors at the 11 centres

where written examinations were held; (e) The Director and officers of the Horticulture Division.

On behalf of the Examining Board,  
H. D. GORDON,  
Chairman.

### 1957 EXAMINATION RESULTS

The following are the results of the 1957 Examinations conducted by the Royal New Zealand Institute of Horticulture for the National Diplomas in Horticulture and Fruit Culture and Certificates in Vegetable Culture and School Gardening. The oral and practical tests were carried out at Christchurch and Palmerston North whereas written examinations were conducted in various centres where candidates resided.

The subjects in which passes have been gained by candidates are shown in parenthesis indicated by code numbers as follows:—

Bookkeeping (1), Horticultural Botany (2), Principles of Botanical Classification (3), Horticulture Stage I (4), Horticulture Stage II (5), Special Subject (6), Plant Protection Stage I (7), Plant Protection Stage II (8), Oral and Practical, Horticulture Stage I (9), Oral and Practical, Horticulture Stage II (10), Oral and Practical, Horticulture Stage III (11), Practice of Horticulture Stage I (12), Principles of Horticulture Stage I (13), Principles of Horticulture Stage II (14), Fruit Culture Stage II (15), Oral and Practical, Fruit Culture Stage I (16), Oral and Practical Fruit Culture Stage II (17), School Gardening Problem (18), Vegetable Production (19), Oral and Practical, Vegetable (20).

**Christchurch:** T. I. Crossen, 8, 10; D. Field, 6, 12; R. E. Lycette, 7, 10; G. L. Macfarlane, 1, 9; L. J. Metcalf, 5, 8, 11; A. C. Morgan, 6, 10, 12; R. J. Nanson, 6, 10, 12; H. Van den Bosch, 3, 4, 6, 10; L. Visch, 6.

**Auckland:** J. Beaver, 18; E. M. Barber, 4; L. K. Clark, 11; A. Farmer 14; P. J. Hubbers, 14; C. E. McInman, 7; J. W. S. Otto, 7; J. A. Robinson, 1, 7; C. M. Walker, 1, 2; G. A. Wood, 5, 10.

**Palmerston North:** J. B. Laurenson, 2, 7.

**Invercargill:** A. D. Curson, 3, 4, 6.

**Hamilton:** A. D. MacArthur, 1; E. Martin, 2, 7; E. A. Scarrow, 7.

**Wellington:** I. A. McGregor, 3, 4, 10.

**Maungaturoto:** M. G. Check, 13.

**Hastings:** M. R. Crooks, 8, 15, 17; D. J. W. Endt, 2, 7, 16.

**Levin:** N. D. Broadbent, 19, 20.

**Nelson:** M. Van Geldermalsen, 8.

The following candidates have completed sections of the examinations:—

**Junior N.D.H.:** C. M. Walker.

**Final School Gardening Certificate:** J. Beaver.

**Final N.D.H.:** L. K. Clark.

**Intermediate N.D.H.:** I. T. Crossen, D. Field, A. C. Morgan, R. J. Nanson, H. van den Bosch, G. A. Wood.

### DAVID TANNOCK MEMORIAL PRIZE

In keeping with its objects to foster the study of horticulture, the Institute, through its Examining Board, instituted a new Memorial Prize at the 1957 Examinations, in the Oral and Practical section of the National Diploma in Horticulture. The Prize is endowed by a fund subscribed to commemorate the horticultural work of Mr. David Tannock, O.B.E., A.H.R.H.S., A.H.R.I.H.(N.Z.), who was one of the founders of the Royal New Zealand Institute of Horticulture and Superintendent of Botanic Gardens, Parks and Reserves at Dunedin from 1903 to 1939. Mr. Tannock trained many apprentices who later occupied responsible positions in horticulture both in New Zealand and overseas.

The prize, to be known as the David Tannock Memorial Prize is to be awarded annually to the candidate gaining the highest marks in the Oral and Practical examination Stage III.

This year the prize has been awarded to Mr. L. J. Metcalf, of Christchurch.

## J. A. CAMPBELL MEMORIAL PRIZE.

This prize, awarded annually to the most successful candidate in the Intermediate section of the National Diploma in Horticulture examination, subject to certain qualifying conditions, has been awarded for 1957 to H. van den Bosch, of Christchurch.

## BOOK REVIEWS

COLOUR IN THE WINTER GARDEN, by Graham Stuart Thomas. (Published by Phoenix House Ltd., London).

To some, the spring holds the greatest charm of the gardening year, while to others summer and autumn possess the greatest attraction. While the reader may hesitate to accept Mr. Thomas's introductory remark "In wooded country my own choice of the year's pageantry of beauty is that of winter, on those mild days when the wind comes from the blessed south-west", by the time the last pages had been reached he will have realised at least that there is much in the outdoor garden of England that links autumn with spring.

In this excellent and most readable book, the author gives in great detail a review of the trees, deciduous and evergreen shrubs, hardy heaths, climbing plants, perennials and bulbous plants that give life to the garden during the four months of the English winter that extend from November to early March. Among the plants not in general circulation in New Zealand are *Abeliophyllum distichum*, the dwarf *Forsythia ovata*, *Corylus avellana contorta*, the dwarf pink flowered *Viburnum fragrans nanum*, the reddish pink *Daphne bholua*, the new Belgian forms of hamamelis and others. Only two important omissions appear to have been made. These are *Hacquetia epipactis*, the pretty green bracted, yellow flowered alpine that flowers in winter and the evergreen meconopsis species so wonderfully fernlike in their glacial beauty following a haw frost.

Not only does Mr. Thomas describe these plants very thoroughly, he also shows where they should be placed in the garden and makes suggestions for their happy association with other plants. The value of winter foliage and berry is handled fully and there are suggestions for planning a border specially for delight in winter. For easy reference there are tables of various plants giving height, season of flowering and planting distances. The book is illustrated by eight full-page water-colour drawings and fifty-two line illustrations, all of high merit. A book that should be on the shelves of all gardeners, particularly those of the South Island.

CURTIS'S BOTANICAL MAGAZINE, Vol. CLXXI, Part IV, edited by W. B. Turrill, O.B.E., D.Sc., V.M.H., F.L.S. (Published by the Royal Horticultural Society, London).

This part completes the present volume which is dedicated to George Horace Johnstone, O.B.E., V.M.H. and contains eleven hand coloured plates of the usual high quality and accuracy. New Zealand is represented by a fine illustration and description of *Gentiana saxosa* and Australia by *Albizia lophantha* and *Hovea longifolia* var. *lanceolata*. Other plants contained in this issue are *Abies amabilis*, *Aerangis coriacea*, *Cassiope lycopodioides*, *Columnnea x banksi*, *Cyclamen ciclicum* var., *Cytisus x kewensis*, *Hydrangea paniculata*, *Primula elatior x juliae*.

LILY YEAR BOOK 1958 (Published by the Royal Horticultural Society, London).

Dedicated to Captain Frank Kingdon-Ward, the well-known plant collector and explorer, this volume maintains the interest of its predecessors. Hybrid lilliums are now coming well to the fore and Sir Frederick Stern gives interesting details of recent hybrids he has raised or has on trial at Highdown. Cultivation receives generous treatment at the hands of Mr. D. Cuthbert (Northumberland), Mr. G. C. Taylor (Norfolk) and Lord Elphinstone writes of American hybrids in Scotland. Mr. M. J. Barnett, M.B.E., A.H., R.H.S. contributes some interesting notes from Christchurch and Mr. Jan de Graaff's article on commercial lily growing in Oregon must interest all who have come under the spell of his new trumpet lilies. An admirable paper on the genus *Erythronium* by Mr. E. B. Anderson provides a very acceptable additional feature.

RHODODENDRON AND CAMELLIA YEAR BOOK 1958 (Published by the Royal Horticultural Society, London).

One of the most interesting articles to Institute members in this issue will be that written by Colonel Durrant who describes the species and varieties of camellias that are cultivated in New Zealand. Sir Giles Loder gives an interesting account of his visit to California in springtime when he was able to see many camellias in flower, mostly *japonica* varieties. The most important item is the history of the Rhododendron Society from 1915 to 1952 given by Mr. G. H. Johnstone which provides some very interesting reading. Other articles deal with rhododendrons grown in the Western Highlands of Scotland, the collection grown at Pylewell Park and at Westbourn and the effect of the freak season of 1955 on rhododendrons at Seattle, U.S.A.

DAFFODIL AND TULIP YEAR BOOK, 1958 (Published by the Royal Horticultural Society, London).

It is good to see this issue dedicated to Mr. Lionel Richardson, one of the two leading raisers of new daffodils and noted for his wonderful orange and red centred varieties. Professor van Slogteren and Mr. D. Horton contribute valuable articles on the control of eelworm by the hot water method, with comments on its value and effects. Another scientific article is provided by Mr. Abbas with information on the influence of temperature on bulb flowers. Mr. Guy Wilson, V.M.H., gives a review of the 1957 daffodil year and Mr. Alec Gray writes about those charming miniature narcissi in which he specialises. There are also overseas contributions of varying interest.

#### CORRECTION :

Inadvertently, on page 202 of the December issue of this Journal, the authorship of the article "Local Body Forestry in New Zealand" was attributed to Mr. J. A. McPherson, A.H., R.I.H.(N.Z.), N.D.H.(N.Z.) whereas the actual author of this paper was Mr. M. Skipworth, B.Sc., (For.), N.D.H.(N.Z.), Superintendent of Parks, Dunedin. It is regretted that this error should have been made.

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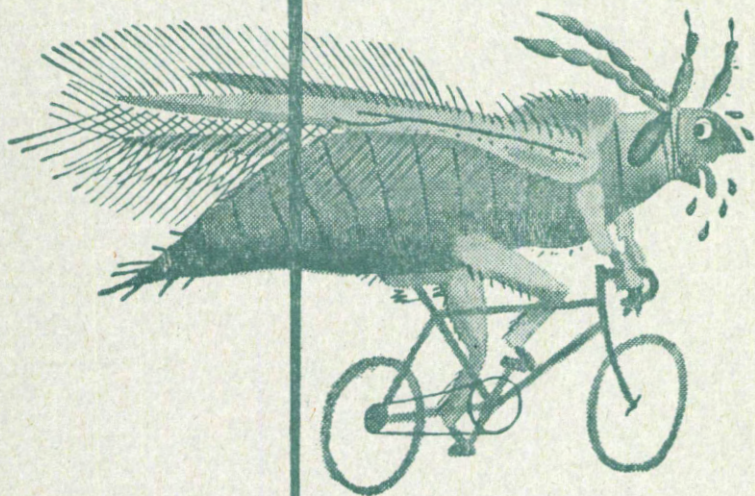
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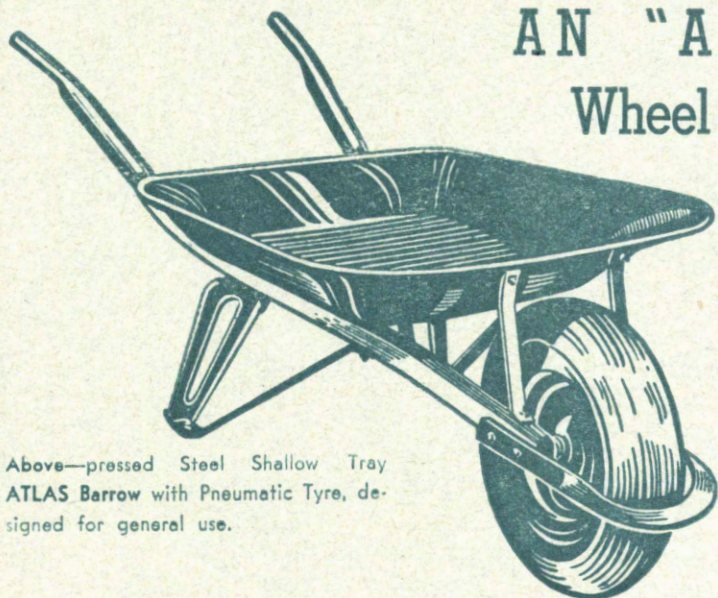


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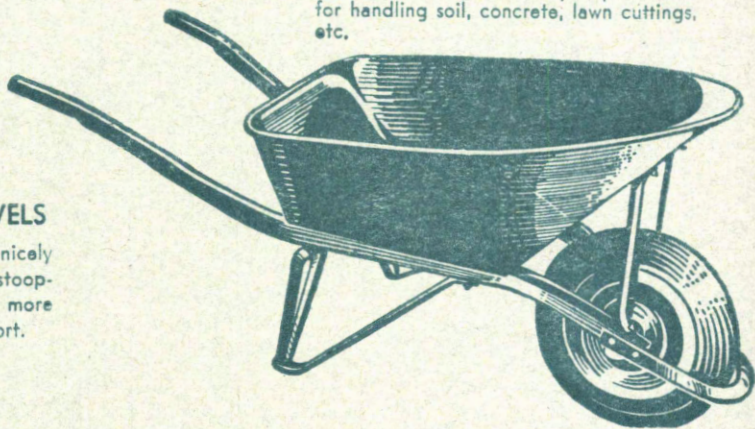
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