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**Visitors to United Kingdom**

An enquiry has been received asking how members visiting Great Britain and Europe can be informed of matters of horticultural interest. The Royal Horticultural Society at Vincent Square, Westminster, London, S.W.1, has stated they are always pleased to welcome overseas visitors to the Shows held there throughout the year and to answer enquiries about places of importance to horticulturists, in Britain and in Europe.

If members become Fellows of the Royal Horticultural Society they receive individual tickets for all meetings, Wisley Gardens, and Shows of the Royal Horticultural Society, including the Great Spring Show, Chelsea, and other privileges. (£2/2/- a year).

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# NEW ZEALAND PLANTS AND GARDENS

The Official Journal of the Royal New  
Zealand Institute of Horticulture (Inc.)

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## ANTIQUITY OF FRUIT.

In the plant world of today the emphasis is placed largely on genera and species of easy cultivation, and on varieties of comparatively recent introduction. True, there has been a revival of interest in the old roses, the *Fuchsia* and the regal *Pelargonium*. Yet how many people realise that some of our most valued varieties of hardy fruit date back well into the past?

The plum 'Green Gage' is a favourite when it can be induced to bear a good crop, by planting nearby an acceptable pollinator. This is a very old variety of French origin, named originally after the queen of Francois I of France (1494-1547). It was imported to England, by Sir Thomas Gage, and renamed after him. One of our most popular early apples 'Gravenstein' was found originally in the gardens of the Castle of Grafenstein, in Schleswig-Holstein, Germany, and was introduced as far back as 1770. This variety has the unusual quality of ripening on the tree, but keeping for several months. Another old apple, still very much appreciated, is 'Reinette du Canada,' grown in France long before the Revolution of 1789.

Still one of the richest flavoured of all apples, when well ripened, 'Ribston Pippin' is still popular. It originated from seeds collected in Rouen and sown at Ribston Hall, Knaresborough, about 1709. Its greatest claim to fame rests on it being the seed parent of the famous 'Cox's Orange Pippin.' This was in 1825, when Mr. Richard Cox, a retired brewer of Colnbrook Lawn, near Slough, saved pips from 'Ribston Pippin,' believed to have been pollinated by 'Blenheim Orange.' One of the seedlings became the well known desert apple, and was eventually distributed by Mr. Charles Turner, nurseryman, of Slough, in 1850.

Many grapes date far back in time. Acknowledged to be the finest of all grapes, when well grown, 'Muscat of Alexandria' has been recorded as far back as 1584, and probably originated much earlier.

Although they do not yet qualify as antiques of the fruit world, many varieties of gooseberries have an interesting origin. The handloom weavers of Lancashire and Cheshire developed a strong competitive

interest in this fruit, and competitions for the best gooseberry were held in that part of England, as recently as the last decade of the last century. Their names proclaim, by their simplicity, their lowly origin. 'Overseer' was raised by George Wilkinson in the late 1850's. 'Postman' was another, raised by Mr. Boardman, about 1860, and 'Lancashire Lad,' raised by Mr. Hartshorn, is recorded as far back as 1824.

The products of a past age possess a fascination peculiar to themselves, and, in many of the instances quoted, still remain unequalled.

G. A. R. PHILLIPS,  
Editor.

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## THE BANKS LECTURE FOREST REMNANTS OF THE MANAWATU LOWLANDS

*A. E. ESLER (Massey College).*

### Introduction

The vegetation of the Manawatu is too complex to be treated as a whole. Only the portion below 250 feet above sea level bordering the Manawatu and Oroua rivers is considered here. At the time of European settlement the area was in standing forest but now, in 1962, only small areas of native trees remain. These remnants are the subject of this lecture.

### History

Records of the botanical composition of these primitive forests is confined to written comments by surveyors, explorers and travellers, brief reference by B. C. Aston and a short account by Dr. H. H. Allan in 1923. The lowlands were heavily forested except for innumerable Maori clearings. The Papaioea clearing, on which Palmerston North developed, was the largest—about 900 acres in extent. It is still less than a century since Stewart, the surveyor, chose this clearing as a place to plan a settlement. Tall forest surrounded the clearing on all sides. On the free draining soils totara and matai flourished but was replaced by kahikatea and its companion tree, pukatea, in wetter places. For the most part the terraces above the flood plain carried a great variety of species—among them rimu, matai, miro, hinau and pokaka. Land was offered for sale in 1867 but, except for a small area already occupied at Karere, there was little settlement until after 1870. In the few years that followed settlement more rapid vegetation changes were wrought than in many preceding centuries. Clearing of the land was imperative. The forest was the greatest barrier to communications and to economic progress. Little thought was given to forest preservation as there appeared to be an inexhaustible supply of good milling timber and firewood.

Not all the land was cleared, however. Small pockets of forest were retained for shelter and for future timber supply. Around 1894 Mr. C. T. Keeble took up a block of land at Fitzherbert West and fenced off 30 acres of forest and preserved it to this day as a relic of past vegetation. Dr. Allan in 1929 described the structure and composition of Kitchener Park near Feilding. Keeble's reserve and Dr. Allan's description give us standards against which other remnants can be judged. R. M. Greenwood's unpublished species list, compiled in 1945, and my own list of 1962 give a record of the rate of degeneration of Kitchener Park over the 33 years.

### The Remnants

Eleven remnants, from less than an acre up to 30 acres in extent, have been studied in some detail, and many more have been examined. The finest of them all is Mr. Keeble's which still, after the heavy gale in 1936 has 5 species of podocarp (matai, miro, totara, kahikatea and rimu) all of millable size, plus tawa, rewarewa, pukatea, hinau, pokaka, black maire, white maire and kamahi forming the uppermost layers. There are 29 smaller tree and shrub species, 18 species of climbing plants and 31 ferns. Other plants bring the total to 132. Millable trees have been removed from all other remnants.

Occupying similar sites to Keeble's bush are the Massey College reserve and Bledisloe Park. The Massey College reserve straddles the main road at the foot of Monro's hill. There are a few emergent kahikatea and a dense canopy of pukatea and other broad leaved trees. In Bledisloe Park mahoe, ngaio and titoki are dominant with kahikatea more evident on the floodable terraces.

Buchanan's bush is typical of the better kahikatea remnants. This area of about 5 acres was logged and browsed till most of the lower storeys were depleted. About 20 years ago the area was fenced and a dense growth of shrubs and ground plants returned. Kahikatea is the dominant tree. State Forest No. 98 at Opiki is similar in many aspects. In both kahikatea is regenerating.

Sutherland's bush is a diminishing patch of kahikatea forest which will disappear when the present trees die—if it is not cleared in the meantime. Most of the cover is given by pukatea, titoki and tawa.

Kitchener Park contains elements of wet and dry forests but the huge kahikatea and matai which have stood for hundreds of years are now over-mature and the whole remnant is in a very degenerate state. Even the most rigorous preservation measures will never restore it to its former grandeur.

Baxter's bush, Durie's bush and a small patch in Karere Road, developed on free draining soils, but there is little evidence now of the totara which once flourished there. Tawa, titoki and mahoe are dominant.

So much for the brief and general description. What changes are going on within the remnants and what is their future?

## Trends in Forest Degeneration

When a forest is browsed by stock, palatable plants, within browsing range, are eliminated first, but most unpalatable species soon succumb to trampling. With prolonged destruction of seedlings the canopy trees are not replaced as they die. Through a broken canopy, light reaches the floor to dry the forest, to favour weed growth and to encourage climbers. Drying of the forest is a vital factor militating against the survival of many species. Most remnants have become so small that no part of them is sheltered from wind. The effect is increased by removal of the lower layers to produce a wind tunnel. When this is coupled with an opening of the canopy the remnant is doomed.

Increased internal light together with trampling has encouraged three major exotic weeds. Of first importance is Wandering Jew, *Tradescantia fluminensis*. (Coloured forms of this are sold for house plants as Wandering Willie). It spreads rapidly to form a dense carpet up to 2 feet deep. Only those forest plants more than 2 feet high at the time of invasion can survive. All others are eliminated and no seedling can grow through it. Cattle relish Wandering Jew but, at the same time, spread it through a forest, planting cuttings as they drop from hoof and mouth. No other plant of similar size has the ability to alter the form or shorten the life of a forest. Wandering Jew, in the absence of stock, is as devastating as heavy browsing pressure alone.

Two unpalatable shrubs, both known as Jerusalem Cherry, and almost indistinguishable in appearance, rank second to Wandering Jew. *Solanum capsicastrum*, with branched hairs at the stem tips, appears to be the more aggressive. Frequently it replaces the native shrub layer. Seeds shed in abundance around parent plants produce up to 1800 plants per square foot. It is not possible to have a greater concentration than this as there would not be room for any more to grow. Naturally only a few survive but the competition restricts the development of seedlings of forest species. The seeds are probably bird-borne to other remnants. Its relative, *Solanum pseudocapsicum*, while present in most forest remnants, is much less troublesome.

The third effect of opening the canopy is the encouragement of climbing plants. Vines are mainly inhabitants of the forest margins but, where light floods the ground within a forest, the marginal effect is increased. In unbrowsed forests particularly, a tangle of vines may form an impenetrable barrier. In unfenced remnants, the only vines are those too mature to be damaged by stock or too thick to be slashed by vandals. In the Manawatu, probably more than in any other district in New Zealand, vines grow abundantly. Twenty-one native climbing plants, exclusive of ferns, and 6 exotic climbers were encountered in the remnants studied.

At the stage when Wandering Jew is established and climbers abound the remnant has lost all resemblance to the forest from which it was derived. Further deterioration is inevitable. Fencing a remnant at

this stage is of little use. If Wandering Jew does not suppress small plants, kawakawa probably will. One by one the canopy trees will drop out, till in the end only widely spaced mahoe, titoki and lacebark remain together, with the leathery leaved fern *Pyrrhosia serpens* and a few twisted stems of *Parsonsia* or Lawyer. It sounds a fairly grim story but is the fate of most remnants of totara forest—as many clumps of gnarled trees in the Manawatu lowlands will testify.

Kahikatea remnants have a brighter future. Particularly where the water table is high, there is active kahikatea regeneration even in the presence of some stock. In Buchanan's bush, which was open to stock until about 20 years ago, there are seedlings and saplings of all ages. Many of the older trees up to a foot or 18 inches in diameter are little more than 100 years old. In an experimental planting on the margin of State Forest No. 98 kahikatea 30 years old is 25 to 30 feet high and averages about 10 inches in diameter. I will not comment on this growth rate from the point of view of economic returns from timber, but will emphasise that, given adequate soil moisture, and some protection from browsing animals, the species will regenerate fairly rapidly. The same cannot be said about any other podocarp in the area except possibly totara. Planted away from other trees totara grows more rapidly than is generally realised, but in competition with other plants its growth rate is disappointing.

### Diminishing Species

A loss of species is inevitable. We have the outstanding example, Kitchener Park. In 33 years the number of native species dwindled from 140 down to 80. Of the 60 herbaceous species in 1928 fewer than half remain now. It is interesting to note that the park was described in 1928, when it contained 140 species, as being in a much-modified condition. Ground plants are particularly vulnerable to damage by stock and Wandering Jew and most of the missing species fell a prey to them. Since 1945 *Asplenium lucidum*, *Blechnum lanceolatum*, *Blechnum filiforme* and a little maiden hair *Adiantum diaphanum* have disappeared. A much greater loss is another fern, *Athyrium australe*, which is nowhere abundant in New Zealand.

Tree ferns are disappearing rapidly from the plains. In some remnants their former presence is indicated by decaying logs. Dr. Allan's comment referring to Kitchener Park is interesting. There are now only a few tree-ferns, but *Cyathea dealbata*, *Dicksonia fibrosa* and *Dicksonia squarrosa* were once common. To my knowledge there is now no *Dicksonia fibrosa* on the plains or on the hills in this region, but it is plentiful in the Pohangina Valley to the north, and in the Ohau Valley to the south.

Some plants presumably more widespread in the past, are now restricted to one area. This applies particularly to the ferns. Keeble's bush has 7 ferns not found elsewhere in the lowlands. Bledisloe Park contains the only northern rata, and the Massey College reserve has the

only swamp maire (*Eugenia maire*) within at least 10 miles of Palmerston North. Rimu, miro and kamahi, one of the most ubiquitous of New Zealand trees, are confined to Keeble's Bush.

### Increasing Species

Some native species tend to increase relative to others or, perhaps more correctly, are better able to maintain their numbers than others. Dr. Allan, in recording the species of moment in Kitchener Park, omitted all *Rubus* species, rangiora, kawakawa and the New Zealand passion flower. In 1962 these cannot be dismissed as minor species. The case of kawakawa is interesting. In Bledisloe Park this plant outnumbers all others in the shrub layer and is equally abundant in the Esplanade. Indications are that it thrives in areas, trampled by humans, more readily than most native plants do. In other fenced reserves it is most abundant where cattle have had access, and less common or absent where sheep have browsed. It is surprising that the large nettle, ongaonga (*Urtica ferox*) has not increased as it has in damaged forest in the middle and upper reaches of the Manawatu river.

Three tree species—mahoe, kaikomako and titoki maintain themselves more readily than most others. Mahoe rejuvenates its branch system from young shoots sent up from near the base of the stem and both kaikomako and titoki have seedlings not relished by stock. It is interesting to note here that, of more than 170 native plants listed in 11 remnants, only 7 are common to all remnants. They are mahoe, kaikomako and titoki together with tawa, *Solanum nodiflorum*, a native relative of the Weedy Nightshade, the fern *Pyrrosia serpens*, and the climber *Parsonsia heterophylla*. It is perhaps not surprising, therefore, that these same trees, except tawa, remain until the forest remnant contains no more than a dozen species. Tawa is often assumed to become the dominant tree in lowland remnants but this trend is not evident at present in the Manawatu. In nearly all forests it is out-numbered by mahoe and titoki.

### Some General Recommendations

I consider that most small forest remnants on drier soils are doomed as museum pieces. They do not give a picture of the original vegetation nor do they contain the large flora characteristic of the primary forests. Nevertheless, for reasons of sentiment or beauty, they will remain and it is desirable that they should.

If we cannot preserve a forest we should attempt to preserve the species in it. Every district has its plants with local peculiarities. How many species or forms—the culmination of thousands of years of evolution—have been lost for ever? Where forests remain they are sources of seed to stock new areas. The seeds of most species are dispersed some distance and seedlings come away under gorse and scrub.



Many areas of gorse and scrub on poor soils are burnt regularly, when they could become refuges for a disappearing flora. In R. M. Greenwood's garden, near Bledisloe Park, 26 native species have appeared under gorse left for that purpose. Communities formed in this way are highly artificial, but serve as plant museums.

What little remains of native communities should be studied before they deteriorate further or before native plants from other districts come in. The large leaved rangiora *Brachyglottis rangiora* at Massey College and in the Esplanade, and *Pittosporum ralphii* along Clifton Terrace, are probably not natural to the area. Possibly they have escaped from garden plantings but there is no proof. The need for detailed regional botanical work is as great as ever it was. The major vegetation changes of the last three generations, the greatest the country will ever experience, are unrecorded. What a task botanists of the future will have, when they try to piece together the picture of primitive vegetation—a picture we neglected to give, because we didn't consider it important!

One further recommendation should be given in the light of this study. Don't allow a forest remnant to become a public park, if you want to preserve it. The trampling, slashing, burning public will soon reduce it to a ruin. Small remnants will be damaged more thoroughly and more rapidly than larger ones. Most good remnants throughout the Dominion have been preserved by farmers, with some thought for the future. Very often preservation has been at considerable personal expense.

In conclusion may I say that this study of forest remnants is not untimely. If the present rate of degeneration continues, and it probably will, all links with the past vegetation will soon disappear.

I would like to think that this same topic could be the subject of a Banks Lecture in 100 years' time.

### References:

1. Allan H. H. 1924 *Forest remnants in the neighbourhood of Feilding*. Rep. 16th Meeting Australasian A.A.S. 16: 402-404 (1923).
2. Zahlbruckner A., Keissler K. and Allan H. H. 1928. *The epiphyllous lichens of Kitchener Park, Feilding, New Zealand*. Trans. N.Z. Inst. 59: 304-314.
3. Aston B.C. 1921 *Soils of the Manawatu District. Part 3. The Loams and Otaki Sands*. N.Z. J. Ag. 21: 105-114.
4. Petersen G. C. 1952. *The pioneering days of Palmerston North*.

FLORA OF THE FOREST REMNANTS

	Keeble's	Bledisloe Park	Durie's	Baxter's	Karere Rd.	Sutherland's	Kit. Park, 1928	Kit. Park, 1962	Massey College	Esplanade	Buchanan's	State Forest 98
<i>Beilschmiedia tawa</i>	x	x	x	x	x	x	x	x	x	x	x	
<i>Dacrydium cupressinum</i>	x											
<i>Elaeocarpus dentatus</i>	x	x	x	x			x					
<i>E. hookerianus</i>	x			x		x		x		x	x	x
<i>Gymnelaea cunninghamii</i>	x	x					x	x		x		
<i>G. lanceolata</i>	x						x					
<i>Knightia excelsa</i>	x	x	x		x							
<i>Laurelia novae-zelandiae</i>	x	x	x			x			x	x	x	x
<i>Metrosideros robusta</i>		x										
<i>Podocarpus dacrydioides</i>	x	x				x	x	x	x	x	x	x
<i>P. ferrugineus</i>	x											
<i>P. spicatus</i>	x	x			x		x	x		x		
<i>P. totara</i>	x	x	x	x	x	x	x	x		x		
<i>Weinmannia racemosa</i>	x											
<b>Smaller Trees</b>												
<i>Alectryon excelsus</i>	x	x	x	x	x	x	x	x	x	x	x	x
<i>Aristotelia serrata</i>	x	x							x			
<i>Coprosma australis</i>	x	x							x	x		
<i>C. lucida</i>	x	x								x		
<i>C. robusta</i>	x	x						x	x			
<i>Coriaria arborea</i>		x										
<i>Cordyline australis</i>	x	x	x	x	x		x	x	x	x	x	x

<i>C. banksii</i>								X					
<i>Corynocarpus laevigatus</i>						X			X	X	X		
<i>Eugenia maire</i>										X			
<i>Fuchsia excorticata</i>	X												
<i>Griselinia lucida</i>	X	X						X	X	X			X
<i>Hoheria angustifolia</i>		X				X	X	X				X	
<i>Hoheria sexstylosa</i>	X	X		X	X		X	X	X	X	X	X	X
<i>Leptospermum ericoides</i>	X	X	X										
<i>Melictytus raniflorus</i>	X	X	X	X	X	X	X	X	X	X	X	X	X
<i>Myoporum laetum</i>	X	X			X		X		X	X			
<i>Myrsine australis</i>	X	X		X		X	X	X	X	X	X	X	X
<i>M. salicina</i>	X			X		X						X	
<i>Neopanax arboreum</i>	X	X					X	X	X	X			X
<i>Olearia rani</i>	X												
<i>Pennantia corymbosa</i>	X	X	X	X	X	X	X	X	X	X	X	X	X
<i>Pittosporum eugenioides</i>	X	X	X				X	X	X	X			
<i>P. tenuifolium</i>	X	X			X		X	X	X		X	X	
<i>Plagianthus betulinus</i>		X	X	X			X	X	X	X			
<i>Pseudopanax crassifolium</i>	X	X		X	X	X	X	X			X	X	
<i>Schefflera digitata</i>	X	X					X		X	X			X
<i>Sophora microphylla</i>		X		X				X	X	X	X	X	X

### Shrubs

<i>Brachyglottis repanda</i>	X	X					X		X	X			
<i>Carpodetus serratus</i>	X					X						X	
<i>Coprosma areolata</i>	X	X	X	X	X	X	X	X		X	X	X	X
<i>C. crassifolia</i>	X												
<i>C. propinqua</i>								X					
<i>C. robusta x propinqua</i>							X	X			X	X	
<i>C. rotundifolia</i>	X	X				X	X	X			X	X	
<i>Coprosma sp.</i>												X	X
<i>Geniostoma ligustrifolium</i>	X	X						X					

FLORA OF THE FOREST REMNANTS (Continued)

	Keeble's	Bledisloe Park	Durie's	Baxter's	Karere Rd.	Sutherland's	Kit. Park, 1928	Kit. Park, 1962	Massey College	Esplanade	Buchanan's	State Forest 98
<i>Haloragis erecta</i>	x	x						x	x			
<i>Hebe salicifolia</i>	x	x										x
<i>Leptospermum scoparium</i>		x										
<i>Lophomyrtus bullata</i>	x	x				x	x	x				x
<i>L. obcordata</i>	x	x			x		x	x				
<i>L. obcordata</i> x <i>bullata</i>							x	x				
<i>Macropiper excelsum</i>	x	x		x	x			x	x	x		
<i>Melicope simplex</i>	x	x	x	x	x	x	x	x			x	x
<i>Melicytus micranthus</i>	x					x	x	x		x	x	
<i>Neopanax anomalum</i>							x					
<i>Paratrophis microphylla</i>	x	x	x	x	x	x	x	x	x	x	x	
<i>Pittosporum cornifolium</i>	x								x			x
<i>Solanum aviculare</i>		x										
<i>S. laciniatum</i>		x			x					x		
<i>Teucrium parvifolium</i>								x				
<i>Urtica ferox</i>	x	x	x		x							
<b>Vines</b>												
<i>Calystegia tuguriorum</i>	x	x		x	x	x	x	x	x	x	x	x
<i>Clematis foetida</i>	x	x			x			x				x
<i>C. hexasepala</i>							x					
<i>C. paniculata</i>	x	x										
<i>Freycinetia banksii</i>	x	x							x			x



FLORA OF THE FOREST REMNANTS (Continued)

	Keeble's	Bledisloe Park	Durie's	Baxter's	Karere Rd.	Sutherland's	Kit. Park, 1928	Kit. Park, 1962	Massey College	Esplanade	Buchanan's	State Forest 98
<i>B. membranaceum</i>		x										
<i>B. procerum</i>	x	x										
<i>Ctenitis decomposita</i>			x	x			x	x				x
<i>C. glabella</i>	x	x	x			x			x			x
<i>C. velutina</i>		x										
<i>Cyathea dealbata</i>	x	x	x				x		x	x		x
<i>C. medullaris</i>	x	x	x	x	x		x	x	x	x		x
<i>Dicksonia squarrosa</i>	x	x								x		x
<i>D. fibrosa</i>							x					
<i>Histiopteris incisa</i>				x					x			
<i>Hymenophyllum revolutum</i>	x											
<i>H. demissum</i>	x						x					
<i>H. dilatatum</i>	x											
<i>H. flabellatum</i>	x											
<i>H. sanguinolentum</i>	x											
<i>H. scabrum</i>	x											
<i>Hypolepis tenuifolia</i>	x		x			x		x			x	
<i>Pellaea falcata</i>						x	x		x		x	
<i>P. rotundifolia</i>	x	x	x	x		x	x	x	x	x	x	x
<i>Phymatodes diversifolium</i>	x	x				x	x	x	x	x		x
<i>P. scandens</i>	x	x				x	x	x	x	x	x	x
<i>Polystichum richardii</i>	x	x				x	x	x				
<i>Pteridium aquilinum</i> var. <i>esculentum</i>	x	x			x			x	x			x

<i>Pteris macilentata</i>		x			x						x	x
<i>P. tremula</i>			x							x	x	
<i>Pyrrosia serpens</i>	x	x	x	x	x	x	x	x	x	x	x	x
<i>Rumohra adiantiformis</i>	x											
<i>Thelypteris pennigera</i>	x	x					x	x	x	x		x
<i>Tmesipteris tannensis</i>	x											
<i>Todea hymenophylloides</i>	x											

**Herbaceous Plants  
(Excluding Ferns)**

<i>Acaena sanguisorbae</i>	x											
<i>Astelia nervosa</i>	x											
<i>A. solandri</i>	x	x						x	x			
<i>Cardamine heterophylla</i>	x	x						x				
<i>Carex dissita</i>	x	x					x	x			x	x
<i>C. forsteri</i>								x				
<i>C. secta</i>	x	x						x				x
<i>C. solandri</i>	x	x							x	x		
<i>C. ternaria</i>	x	x							x			x
<i>Collospermum hastatum</i>	x	x	x				x	x	x	x	x	x
<i>C. spicatum</i>	x											
<i>Dianella intermedia</i>	x											
<i>Echinopogon ovatus</i>			x									
<i>Erechtites prenanthoides</i>	x											x
<i>Gahnia procera</i>		x										
<i>Gnaphalium lutea-album</i>		x										
<i>Hydrocotyle americana</i>	x	x						x			x	
<i>H. dissecta</i>	x	x	x									
<i>H. moschata</i>	x											
<i>Juncus lampocarpus</i>	x											
<i>J. polyanthemus</i>	x											
<i>Korthalsella lindsayi</i>	x					x						
<i>Microlaena avenacea</i>	x	x					x					

FLORA OF THE FOREST REMNANTS (Continued)

	Keble's	Bledisloe Park	Durie's	Baxter's	Karere Rd.	Sutherland's	Kit. Park, 1928	Kit. Park, 1962	Massey College	Esplanade	Buchanan's	State Forest 98
<i>M. polynoda</i>								x				
<i>Parietaria debilis</i>	x	x	x	x						x	x	x
<i>Poa anceps</i>		x										
<i>Scirpus cernuus</i>	x											
<i>Solanum nodiflorum</i>	x	x	x	x	x	x		x	x	x	x	x
<i>Stellaria parviflora</i>	x	x										
<i>Uncinia clavata</i>	x											
<i>U. laxiflorus</i>	x	x										
<i>U. uncinata</i>	x	x					x	x				x
<i>Uncinia sp.</i>	x											
<i>Urtica incisa</i>	x		x	x				x				x
<b>Orchids</b>												
<i>Bulbophyllum tuberculatum</i>							x					
<i>Dendrobium cunninghamii</i>	x	x					x	x	x		x	
<i>Earina autumnalis</i>	x	x									x	
<i>E. mucronata</i>	x	x	x	x			x	x		x	x	x
<b>Weeds</b>												
<i>Solanum capsicastrum</i>						x						
<i>S. pseudocapsicum</i>	x	x		x				x			x	x
<i>Tradescantia fluminensis</i>		x			x			x	x	x	x	



It should be noted Dr. Allan did not attempt to give a complete list of species for Kitchener Park. His paper was designed to outline the structure and composition of the forest and gives mainly the more important species.

In compiling the above flora an endeavour was made to make it as complete as possible but doubtless some plants will have been missed. I acknowledge the considerable help given by R. M. Greenwood in its compilation.

## ANNUAL REPORT OF THE DOMINION COUNCIL FOR THE YEAR ENDED 30th SEPTEMBER, 1961.

Ladies and Gentlemen,

The Dominion Council has much pleasure in presenting the Annual Report for the year ended 30th September, 1961, which is the 39th Annual Report of the Royal New Zealand Institute of Horticulture (Inc.).

In this Report the Dominion Council brings before members and the public a resume of the many matters that have been dealt with during the year. Those matters which have not yet been finally disposed of are still receiving the attention of the Dominion Council.

### 1. MEETINGS:

(a) **Annual Conference:** The 38th Annual General Meeting and Conference of Delegates was held in Greymouth on 1st February, 1961. In the absence of a district council there, a local committee ably led by His Worship the Mayor and the Town Clerk, assisted by the Executive of the Canterbury District Council, fulfilled the functions of hosts very hospitably.

The Conference which was officially opened by the Hon. C. F. Skinner, M.P., was very well attended and proved to be another notable occasion in the history of the Institute.

The hospitality of the lands Department in arranging a tour of inspection of forests and land development in the area was sincerely appreciated by all. The proceedings of the Conference were published in *New Zealand Plants and Gardens* (Vol. IV., No. 11).

(b) **Dominion Council:** The Dominion Council met on five occasions during the year and the average attendance at those meetings was 16. It was pleasing to observe a better representation of District Councils at some of those meetings. By direct representation here, District Councils are making a much greater contribution to the management and direction of the affairs of the Institute. They are also kept in vital touch with horticulture on a national basis.

(c) **Sub-committees and Examining Board:** The Dominion Council acknowledges with gratitude the co-operation and help received from the various sub-committees and Examining Board. These have met regularly during the year to handle, in a very particular and careful way, that business for which they accepted responsibility.

**2. IN MEMORIAM:** It is with very sincere regret that the Dominion Council records the passing of several esteemed members during the year. Their passing is keenly felt, and our sympathies are extended to their relatives. The passing of Mr. A. W. Green, A.H.R.I.H. (N.Z.) of Hamilton (President of the Waikato District Council), Mr. C. M. Smith, A.H.R.I.H. (N.Z.), of Wellington (a valued member of the Dominion Council and Examining Board), Mr. J. R. Templin, A.H.R.I.H. (N.Z.), of Christchurch, and Hon. W. H. Gillespie, Vice-Patron of the Institute, was very keenly felt.

These, and others whose names are not specially mentioned, will long be remembered for their service to horticulture.

**3. MEMBERSHIP:** The total membership stands at 2,043, including 35 Associates of Honour. This represents a decrease of 46 over last year.

The question of membership is a vital one and District Councils are strongly urged to undertake campaigns to increase their memberships during the year 1962.

It was heartening in September to approve the founding of a new District Council in Taupo with an initial membership of 47.

#### 4. FINANCE:

(a) **Annual Accounts:** Efforts to gain greater income from advertising in the Journal have been successful, and thanks are expressed to the District Councils who co-operated to achieve this. Still greater income is required, however, and the assistance of all District Councils is earnestly solicited.

Accounts reveal that additional general income is required to meet our commitments and here, again, the question of membership is the key to achieving this. The membership of the Institute must be increased, and all present members are urged to enlist new members during the coming year.

Capitation at the rate of 5/- per member is paid to District Councils.

(b) **Trust Accounts:** These are clearly set out in the attached Accounts. Trust funds are properly invested.

(c) **Publication Account and Loder Cup Account:** These, too, are clearly set forth. The assistance received from the Internal Affairs Department for the Journal again this year is gratefully acknowledged.

**5. PUBLICATIONS:** The Institute's Official Journal, *New Zealand Plants and Gardens* (Editor, G. A. R. Phillips, F.R.I.H. (N.Z.)), has been published quarterly throughout the year and maintains a high standard and wide range of authoritative articles by qualified and experienced authors on New Zealand and overseas horticulture.

The September 1961 issue, commemorating the 150th Anniversary of the birth of Wm. Colenso, aroused particular interest.

The two addresses on Horticulture given at the IXth N.Z. Science Congress held in Wellington in May, 1960, were published.

To encourage greater support for the Institute and a wider knowledge of the Journal, a study is being made of the distribution of the Journal amongst public libraries. District Councils could help by showing an interest in local exhibitions of horticultural literature and ensuring that *New Zealand Plants and Gardens* is included in such exhibitions.

Special thanks are expressed to the Editor, Mr. G. A. R. Phillips, for his work and keen personal interest in the Journal as evidenced by the quality of the publication. His voluntary preparation of an *Index and list of Plant Names* for Volume III was no mean task and Mr. Phillips is specially thanked for undertaking this. Appreciation is also expressed to the authors of articles published and especially to those whose services have been given gratis.

The Publications Committee has done excellent work during the year and our thanks are expressed to them.

The Committee duly considered whether the Journal could be published bi-monthly, but recommended against the suggestion on account of the cost involved.

**6. HISTORIC AND NOTABLE TREES OF NEW ZEALAND:** On behalf of the Institute the N.Z. Forest Service is continuing with the preparation of an index of historic and notable trees.

District Councils are asked to give greater assistance to ensure that this list is correctly checked and augmented by the addition of all known specimens which qualify for inclusion.

**7. ARBOR DAY:** This Annual Observance was again fully supported throughout the Dominion by the Institute.

**8. LODER CUP AWARD:** This annual Award is offered to Lovers of Nature in New Zealand to encourage the protection and cultivation of the incomparable flora of the Dominion.

The Institute is represented on the Loder Cup Committee by Mr. W. K. Dallas.

The 1961 Award has been made to Mr. C. T. Keeble, of Palmerston North and our congratulations are extended to Mr. Keeble.

During the year the Honourable Mary Loder, a daughter of the donor of the Loder Cup, visited New Zealand and was suitably entertained by the Loder Cup Committee.

**9. EXAMINING BOARD:** This Board, appointed by the Dominion Council, bears the full responsibility for the conduct and administration of the Institute's examinations. The Institute has full statutory authority to issue Diplomas and Certificates as follows:—

- National Diploma in Horticulture (N.D.H. (N.Z.)).
- National Diploma in Fruit Culture (N.D.F.C. (N.Z.)).
- National Diploma in Apiculture (N.D.Ap. (N.Z.)).
- Certificate in School Gardening (C.S.G. (N.Z.)).
- Certificate in Vegetable Culture (C.V.C. (N.Z.)).
- Seedsman's Certificate (S.C. (N.Z.)).

This is a most vital function of the Institute, calling for meticulous care and attention which has characterised the Board's work throughout the year. Under the Chairmanship of Professor H. D. Gordon, of Victoria University of Wellington, this Board comprises eminent persons engaged in both the practical and educational fields of Horticulture. For this the Institute is grateful and can be assured that all of its examinations affairs are capably administered.

The greater recognition of the Institute's National Diplomas is always a matter that concerns the Dominion Council. It is noteworthy and gratifying that the N.Z. Institute of Park Administration fully recognises the merits of the National Diploma in Horticulture, and regards it as an essential qualification for Directors and Superintendents of Parks and Reserves.

The apathetic attitude of the Public Service Commission towards our National Diplomas gives cause for real concern. Early in the year a deputation from the Dominion Council waited on the Public Service Commission to present a case for recognition of the Diplomas as "Professional" qualification within the Public Service, but without success. The matter was not dropped and a submission was made to the Royal Commission on N.Z. State Services. (See separate paragraph No. 22.)

The co-operation of the Canterbury District Council, the Christchurch Parks Department, and others, in the conduct of the Oral and Practical Examinations in Christchurch, is gratefully acknowledged.

A separate report from the Examining Board is appended.

**10. PLANT RAISERS' AWARD:** This Award is now operative and District Councils are invited to take advantage of it.

**11. AWARD OF GARDEN EXCELLENCE:** A sub-Committee is working on this proposal, and already preliminary plans have been submitted to District Councils for consideration.

**12. NOMENCLATURE:** Following the death of Mr. C. M. Smith, the Nomenclature Committee was reconstituted with the following membership: Messrs. J. P. Salinger (Convener), M. J. Barnett, P. C. Gardner, A. J. Healy, L. J. Metcalf and A. L. Poole.

The Committee has met once and has continued acting by correspondence. The Committee duly received the remit passed at last year's Conference on Horticultural Nomenclature and by co-operation with the N.Z. Horticultural Trades Association, through its representative Mr. P. C. Gardner, and the editor of *New Zealand Plants and Gardens*, it is hoped that the standard and accuracy of horticultural nomenclature in New Zealand will improve.

On behalf of the Institute, the Christchurch City Council has set aside an area for *Leptospermum* cultivars in the Cockayne Memorial Gardens. The Institute is grateful for the provision of these facilities which are essential in performing the duty of an International Registration Authority for this genus.

The Institute sponsored the nomination of Mr. J. P. Salinger as the representative of New Zealand on the International Commission for Horticultural Nomenclature, thus forging yet another link with international horticulture.

Correspondence has been received from overseas in the matter of registration of leptospermums, and Mr. C. M. Smith's initial study of the subject has proved invaluable in this.

**13. FELLOWSHIPS:** It has been the pleasure of the Dominion Council to bestow the distinction of Fellowship on 24 members during the year. District Councils are congratulated on bringing these nominations forward, and the Dominion Council hopes that more will be proposed during the ensuing year. "Fellowship" is conferred upon persons in virtue of their distinct interest in and service to horticulture as expressed and revealed by their activities.

**14. ASSOCIATES OF HONOUR:** Nominations for 1961. The Dominion Council has pleasure in recommending to the forthcoming Dominion Conference that the distinction of Associate of Honour, A.H.R.I.H. (N.Z.), be conferred on Messrs. J. G. McKenzie (Hastings), A. White (Lower Hutt), H. G. Gilpin (Christchurch), and R. L. Thornton (Auckland). (Citations in support of these nominations will be presented at the Dominion Conference.)

The distinction of Associate of Honour is conferred only on persons who have rendered distinguished service to horticulture. The maximum number of Associates of Honour at any one time, sanctioned by the Constitution of the Institute, is 40.

**15. DISTRICT COUNCILS:** It is per medium of District Councils that the Institute is brought directly before the public of our Dominion and that its functions are expressed. The Dominion Council acknowledges with sincere thanks the work done by District Councils and particularly by the officers and executives. During the year some District Councils have lost the services, through death, of many capable and devoted members. Their memories are held in esteem, while others have stepped forward to take their places. The Dominion Council wishes all District Councils every success in their efforts to promote the love of and interest in horticulture.

(a) **Waikato District Council:**—has the deepest sympathies of all in the sad loss suffered by the death of their President, Mr. A. W. Green, A.H.R.I.H. (N.Z.), last February. We wish Mr. R. T. Fear (Mr. Green's successor), every success in office as President. The resignation, through ill health, of Mr. J. R. Turnbull, Secretary of the District Council for many

years, is regretted. He carries the good wishes of the Dominion Council for renewed health. Our thanks are expressed to him for his past services so capably rendered.

(b) **Canterbury District Council:**—congratulations on yet another successful one-day Conference held in Christchurch.

(c) **Wellington District Council:**—successfully conducted a ten-lecture course on Floral Art Standards and Judging, followed by an examination.

(d) **Rotorua:**—A public meeting was convened in Rotorua with a view to reviving the District Council there, but, through lack of support, nothing could be done. It is hoped that, in due course, a District Council might be established there again.

(e) **Taupo:**—Through the personal enthusiasm of Mr. J. Bennett, N.D.H. (N.Z.), F.R.I.H. (N.Z.), who now resides in Taupo, a new District Council was founded in September 1961, with a membership of 47. This number has since increased. A strong executive has been elected and already a good start has been made with encouraging local support and interest. The Dominion Council wishes this new District Council every success.

The efforts of the Lands and Survey Department to recapture the natural beauty of the Taupo area surrounding the Huka Falls and the Aratiatia Rapids Power Scheme are appreciated by this Institute. This work is doing much to generate in the minds of the public a lively interest in Horticulture.

(f) **Westland:**—The 1961 Dominion Conference in Greymouth did much to stimulate horticultural interest in Westland. The possibilities of fostering a District Council there in the near future are being followed up.

(g) **Membership:**—The need for a growing membership each year cannot be over-emphasised in this Annual Report. Every present member who appreciates the work and objects of the Institute can do much to help by enrolling just one other member each year. The strength of the Institute will rest upon a strong and active membership. District Council Executives are earnestly asked to take up this question seriously during the ensuing year with the firm objective of increasing membership substantially.

**16. UNIVERSITY CHAIR OF HORTICULTURE:** This subject has been considered further during the year, and is being placed on the Agenda for the forthcoming Dominion Conference for full discussion with other interested organisations.

**17. INTERNATIONAL SOCIETY OF HORTICULTURAL SCIENCE** (Headquarters at The Hague, The Netherlands). The Institute has resolved to make application for formal membership as an affiliated organisation of this International Society. As the authorised International Registration Authority for the genera *Hebe* and *Leptospermum* the Institute is already linked with this International Body. District Councils fully endorsed this step being taken.

#### **18. REMITS PLACED BEFORE 1961 DOMINION CONFERENCE:**

(a) **re Accurate Identification of Plants and Spelling of Plant Names:** This matter has been taken up by the Institute's Nomenclature Committee and a link forged with the N.Z. Horticultural Trades Association by the appointment of Mr. P. C. Gardner to the Nomenclature Committee. It is felt that this question is now being adequately cared for and greater uniformity and accuracy may be progressively anticipated in the future.

(b) **re Litter:** The Dominion Council has pledged itself to support any legislation that might be introduced to combat litter in public places. Local Bodies already have by-laws governing this problem.

(c) **Opossum Control:** Reports were invited from District Councils and the information gleaned has been passed on to the N.Z. Forest Service. This national problem must be faced and dealt with at all levels. The Institute lends its weight to attacking this menace and has placed the subject on the Agenda for the 1962 Conference for further discussion.

**19. TEACHING HORTICULTURE IN SECONDARY SCHOOLS:** The need for qualified teachers in the subject of Horticulture in secondary schools is a pressing one throughout the Dominion. Holders of the Institute's National Diploma in Horticulture should be eminently qualified to teach, and their attention is drawn to this national need.

**20. NATIONAL DIPLOMA IN APICULTURE** — N.D.Ap. (N.Z.): The prescriptions for this new examination have now been finalised in consultation with the National Beekeepers' Association of N.Z., and the Department of Agriculture. The prescriptions have been approved by the Minister of Agriculture and gazetted. Due publicity is now being given to this new diploma examination.

**21. THANKS:** The Dominion Council again expresses appreciative thanks to all who have contributed to the successful running of the Institute throughout the past year. Particular thanks are expressed to:—

(a) The Government of New Zealand, Ministers of the Crown, and Departmental Officers. Their courteous attention to the needs of the Institute, whenever they have been brought to their notice, has been sincerely appreciated.

(b) Local Bodies, for their continued interest and support, and the Directors and Superintendents of Reserves.

(c) Examiners, supervisors, and all others who have co-operated to facilitate the conduct of the examinations during the year. Special reference is made here to the excellent assistance received from the Director of Reserves and his Staff at Christchurch in the conduct of the Oral and Practical examinations there.

(d) District Council Presidents and Executives who have maintained an active front in their respective localities.

The return to England early in 1962 of Mr. J. H. Glazebrook (Christchurch), will terminate a link which he has had with the Institute for the past 12 years. For the past six years Mr. Glazebrook has served on the Dominion Council and for over two years on the Examining Board. He has readily contributed to the work of the Institute and our thanks are expressed to Mr. Glazebrook. Our best wishes accompany him upon his departure.

It is fitting that special reference be made to the retirement of Mr. M. J. Barnett, M.B.E., from the position of Chief Examiner of the Institute's Oral and Practical examinations. Mr. Barnett has served the Institute in this capacity for a number of years. His service has been outstanding. Highly qualified and widely experienced in all phases of horticulture, Mr. Barnett exercised his duties with distinct credit to himself and to the Institute, and has maintained a very high, yet fair, standard for the conduct of these examinations. Our appreciation is placed on record here and our warmest thanks are expressed to Mr. Barnett.

**22. ROYAL COMMISSION OF N.Z. STATE SERVICES:** Opportunity was taken to place before this important Royal Commission a submission for more adequate recognition of the Institute's National Diplomas within the Public Service. An excellent case was well prepared and presented by Sir Robert Macalister, A.H.R.I.H. (N.Z.), on behalf of the Institute. Sir Robert, assisted by Messrs. E. Hutt, A. M. W. Greig, and the Dominion Secretary, called for full recognition of the Diplomas as "Professional" qualification within the Public Service. The Commission displayed a lively

interest in the submission and freely questioned the Institute's deputation on several aspects of the Diplomas. It was felt that the submission had not been fruitless and the final report of the Commission is awaited. The following recommendations were placed before the Royal Commission.

(1) That practical training and experience in the field of endeavour, related to the activity of the Department concerned, be given greater consideration for promotion in a technical Department of the Public Service.

(2) That Diplomas issued by accredited bodies having adequate practical training embodied therein, for which candidates have been thoroughly and successfully examined, be accepted as evidence of such practical training and experience.

(3) That such diplomas be accepted as qualification entitling the holders thereof to a classification which will leave clear for them the way to promotion, according to merit, to the highest positions equally with the holders of other qualifications.

(4) That, within the framework of the Public Service, due and adequate recognition and distinction be accorded to those services which are essentially "crafts," as distinct from pure sciences, and that suitable qualifications be defined in accordance with the character of the services offered.

(5) That in accordance with these recommendations, which are put forward as a broad principle, this Institute's National Diplomas in Horticulture, Fruit Culture, and Apiculture be recognised as suitable qualifications in themselves, within their respective fields of activity, to render the holders thereof eligible for promotion to the highest related positions available within the Public Service.

**23. CONCLUSION:** I pay tribute to the unstinted service which members of the Dominion Council have given to the Institute during the year. To many it has been more than just attending meetings. Much has been done readily and willingly by them in their own time and the satisfactory administration of the affairs of the Institute has been eased and made possible by the loyalty and devotion of all members of the Dominion Council.

I appeal to all District Councils for better representation at Dominion Council meetings. It is here that the real work of the Institute is done on a national scale, and the contribution which District Councils can make is vital.

I appeal to every individual member to help build up and strengthen the membership of the Institute. The successful management and financing of the Institute rests fully upon a strong membership.

Another year has past. We personally have grown older but Horticulture ever remains green, fresh and absorbing — she will never grow old, as we grow old. Fresh challenges are thrown to us daily in our horticultural pursuits. It is just this and the close vital link which man has ever had with the soil, that makes the study and practice of horticulture the absorbing and interesting science, art, culture, craft, profession, hobby, or whatever other title we may give it.

For the past seven years it has been my pleasure and privilege to hold office as Dominion President. The time has now come for me to pass the mantle of office on to another, and in doing so I shall carry with me a happy recollection of pleasant times spent amongst fine people who are bound together by one common interest — the promotion and advancement of horticulture.

On behalf of the Dominion Council,

JOHN HOUSTON, O.B.E., LL.B., A.H.R.I.H. (N.Z.),  
Dominion President.

## ROYAL NEW ZEALAND INSTITUTE OF HORTICULTURE (INC.)

## Thirty-ninth Annual Conference.

*Report on Proceedings:*

Mr. John Houston, O.B.E., LL.B., A.H.R.I.H. (N.Z.), of Hawera, Dominion President, presided over the 39th Annual Meeting and Conference of Delegates held in Palmerston North on Wednesday, 14th February, 1962. There was a very good attendance of over 80 delegates, members, and visitors, amongst whom there was a good representation from the New Zealand Institute of Park Administration.

*Apologies:*

Personal apologies for non-attendance were received from several members and from affiliated organisations which were not able to arrange for representation. These apologies were announced to the meeting and sustained. Good wishes for a successful Conference had also been received.

*Formal Notice of Meeting:*

The formal notice of meeting was read by the Dominion Secretary.

*Welcome:*

The Dominion President extended a very cordial welcome to all delegates, members, and visitors.

*In Memoriam:*

The Dominion President called upon all present to stand for a moment in silence in respect of the memory of those members who had passed away since the holding of the previous Annual Meeting, amongst whom were some very distinguished persons, and in particular:—

Hon. W. H. Gillespie, M.P., Vice-Patron.

Hon. T. L. Hayman, M.P., Vice-Patron.

Mr. C. M. Smith, M.A., B.Sc. (For.), (Edin.), A.H.R.I.H. (N.Z.), (a member of the Dominion Council and Examining Board).

Mr. F. R. Long, A.H.R.H.S., of South Africa, (an eminent horticulturist of world-wide acclaim, who had been a regular contributor of valuable articles for the Institute's Journal).

Mrs. F. E. Crighton, F.R.I.H. (N.Z.), of Hamilton.

*Procedure Rules:*

These rules as defined on page 4 of the Conference Papers were formally adopted as the rules of procedure for the Conference.—(Houston/Living).

*Official Opening:*

In the unavoidable absence of the Minister of Agriculture, who was to have opened the Conference, His Worship the Mayor of Palmerston North, Mr. G. M. Rennie, J.P., had graciously undertaken this formal but happy function. A very warm welcome to His Worship, the Mayoress, and the Hon. W. H. Brown, M.P., was extended by the Dominion President, in expressing the pleasure of the assembled delegates at the acceptance at very short notice by His Worship of the invitation to officially open the Conference. Apology for his last minute cancellation of the engagement, through the arising of important and urgent Government business, was received from the Hon. B. E. Talboys, Minister of Agriculture.

Addressing the Conference His Worship considered that the Institute had 'gone a long way' in its 39 years of activity, and was confident that it 'would be going a long way further' in the years ahead. The Institute had become a very responsible organisation exercising a wide influence and charged with a major responsibility in conducting examinations in horticulture and allied subjects. He was pleased to note that Palmerston North was contributing her share towards this responsibility in having two of her noted citizens as members



of the Examining Board (Messrs. D. C. MacKenzie, and K. C. Hockey), and another as a Vice-President (Dr. J. S. Yeates). He was very pleased to know that horticulture apprentices in Palmerston North were availing themselves of these examinations, and was interested in their progress.

The Kairanga County, which surrounds Palmerston North City, joined with him in extending congratulations to Mr. C. T. Keeble, the winner of the Loder Cup Award for 1961. It was no mean distinction to receive such Award, which was made 'to lovers of nature in New Zealand to encourage the protection and cultivation of the incomparable flora of the Dominion.' The Palmerston North district was honoured by one of its citizens receiving the Award.

His Worship reminded the Conference that 90% of the value of New Zealand's exports 'came from the blade of glass'. He spoke of the great joy and pleasure obtained from the beauty of nature as expressed in the gardens of the world, and quoted—'consider the lilies of the field, how they grow, . . . even Solomon in all his glory was not arrayed like one of these.' His Worship wished the Institute every success in its work, and hoped that the day's deliberations would be profitable and fruitful.

The Hon. W. H. Brown, M.P. (Palmerston North), added his good wishes for a happy and successful Conference and conveyed the personal regrets of Mr. Talboys at his unavoidable absence. He eulogised the qualities and ability of Mr. Talboys, as the newly-appointed Minister of Agriculture, and was sure that, in him New Zealand had an outstanding young man occupying such an important ministerial portfolio.

Mr. Brown, in excusing himself as a poor gardener, expressed his delight with the work done in schools to engender an interest in the gardens and in horticulture generally.

In thanking the Mayor and Mr. Brown for their remarks, Mr. Percy Thomson, A.H.R.I.H. (N.Z.), of Stratford, said how pleased the delegates were to have them and the Mayoress present. Mr. Thomson referred to the most interesting address given on the previous evening by the chairman of the Parks and Reserves Committee of the Palmerston North City Council. Mr. Thomson complimented the Mayor on the beauty of the gardens in the City.

(At this juncture the official party were entertained at morning tea with the delegates and others present).

#### *Annual Report:*

The Annual Report for the year ended 30th September, 1961, had been previously circulated to all District Councils and delegates. The Report was thereupon taken as read.

In moving the adoption of the Report, the Dominion President expressed pleasure at the full representation of the N.Z. Institute of Park Administration at the Conference and also at the very cordial and helpful relations between the two Institutes.

The inauguration of a District Council at Taupo, with an initial membership of 47, through the personal enthusiasm and efforts of Mr. J. Bennett, F.R.I.H. (N.Z.), N.D.H. (N.Z.), during the year was a most pleasing event. The Dominion Council wished this new District Council every success.

Nomenclature was a most important aspect of horticulture, and the international recognition of the Institute in this field was a vital step forward. The death of Mr. C. M. Smith had taken away a most eminent botanist whose work in this field was of great value, and his loss was keenly felt. Mr. J. P. Salinger, B.Sc., N.D.H., F.R.I.H. (N.Z.), had taken over the convenorship of this Committee, following the death of Mr. Smith.

Strength in the membership of the Institute was a vital issue at all times, and must be adequate to ensure the satisfactory functioning of the organisation.

The Historic Trees Committee (under the convenorship of Mr. W. H. Jolliffe) had done good work, although there was still much to be done before

the full result could be revealed. District Councils were urged to give every assistance to this Committee by reporting fully on local historic and notable trees.

The fine work of Mr. G. A. R. Phillips, F.R.I.H. (N.Z.), as Editor of the Institute's Journal, *New Zealand Plants and Gardens*, was appreciated by all members, and others, who received and read this publication.

The Examining Board's work represented a most important function of the Institute and was most efficiently and diligently carried out.

The Dominion President appealed to all District Councils:

- (1) To take every step possible to increase membership.
- (2) To exercise more freely their right to be represented at meetings of the Dominion Council.
- (3) To co-operate fully with the Dominion Council in all questions where an opinion, advice, or assistance was sought.

This being the last Dominion Conference over which he would be presiding as Dominion President, Mr. Houston expressed his personal thanks and appreciation to all who had assisted him in the exercise of his duties and particularly to all who had contributed to the efficient conduct of the affairs of the Institute.

Mr. J. Bennett, N.D.H. (N.Z.), F.R.I.H. (N.Z.), seconded the motion for the adoption of the Annual Report, and there being no further discussion, the motion was put and duly carried.

#### *Annual Accounts:*

The Financial Statements for the year ended 30th September, 1961, with the Auditors' Report thereon, had been previously circulated, and were thereupon taken as read.

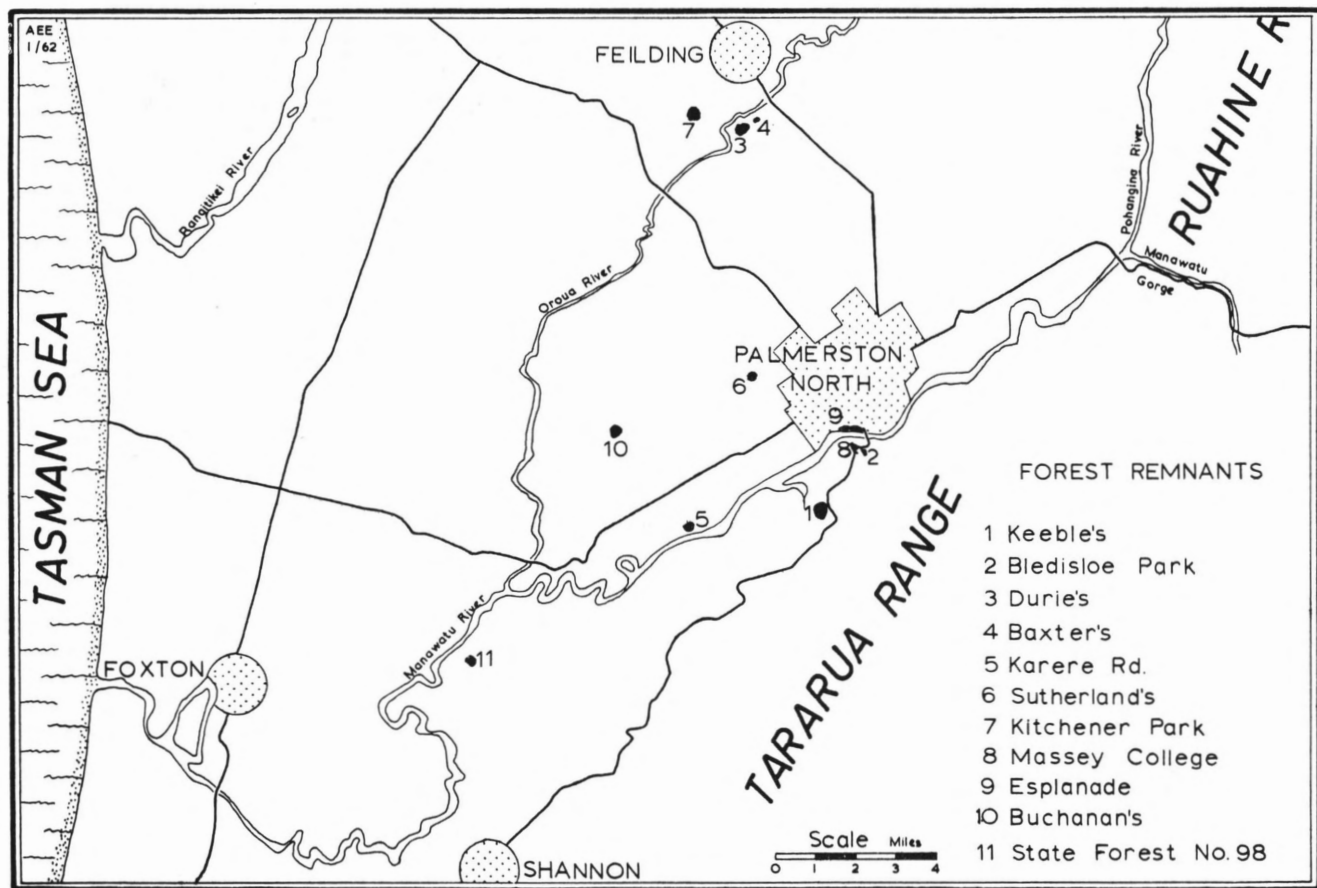
Mr. J. F. Living, F.R.I.H. (N.Z.), chairman of the Finance Committee, elaborated on some of the items in the Accounts and drew attention to the deficit which could be attributed to the need for an increased membership. It was important that the Institute's finance be strengthened by a greater membership rather than by an increase in subscription rates. District Councils continued to receive an annual Capitation at the rate of 5/- per financial member. The Journal, too, took up a great portion of each member's subscription, and thus the members received, through the Journal and the capitation to district councils, a direct benefit equivalent to about 13/- per head, leaving only 7/- to finance the Institute's Dominion Council and Examining Board activities. The cost of the examinations fell quite heavily on the Institute's general funds, quite apart from the Capitation received from the Government for this purpose.

Mrs. N. V. Anderson, F.R.I.H. (N.Z.), seconded the motion for the adoption of the Annual Accounts. There being no further discussion the motion was put to the meeting and carried.

#### *Chair of Horticulture:*

Discussion on the need for the establishment of a University Chair of Horticulture in New Zealand was introduced by Mr. A. M. W. Greig, B.Sc., A.H.R.I.H. (N.Z.), N.D.H. (N.Z.), Director of the Horticulture Division of the Department of Agriculture. Mr. Greig referred to the absence in New Zealand of a university degree in Horticulture, whereas such degrees were available in the United Kingdom and in the U.S.A. In this regard New Zealand was lagging behind. As a subject, horticulture was too wide in its scope to fit into one of the existing New Zealand degrees, such as Science or Agriculture. Horticulture has its own special characteristics of a science, an art, a craft, and a commercial venture. The establishment of a Professorial post in Horticulture in New Zealand would give independent academic leadership at university level. The relative importance of Horticulture to our Dominion increased with the growth in population, for commercially and home-grown products rose in pro-

The Banks Lecture: Forest Remnants of the Manawatu. (See page 255.)





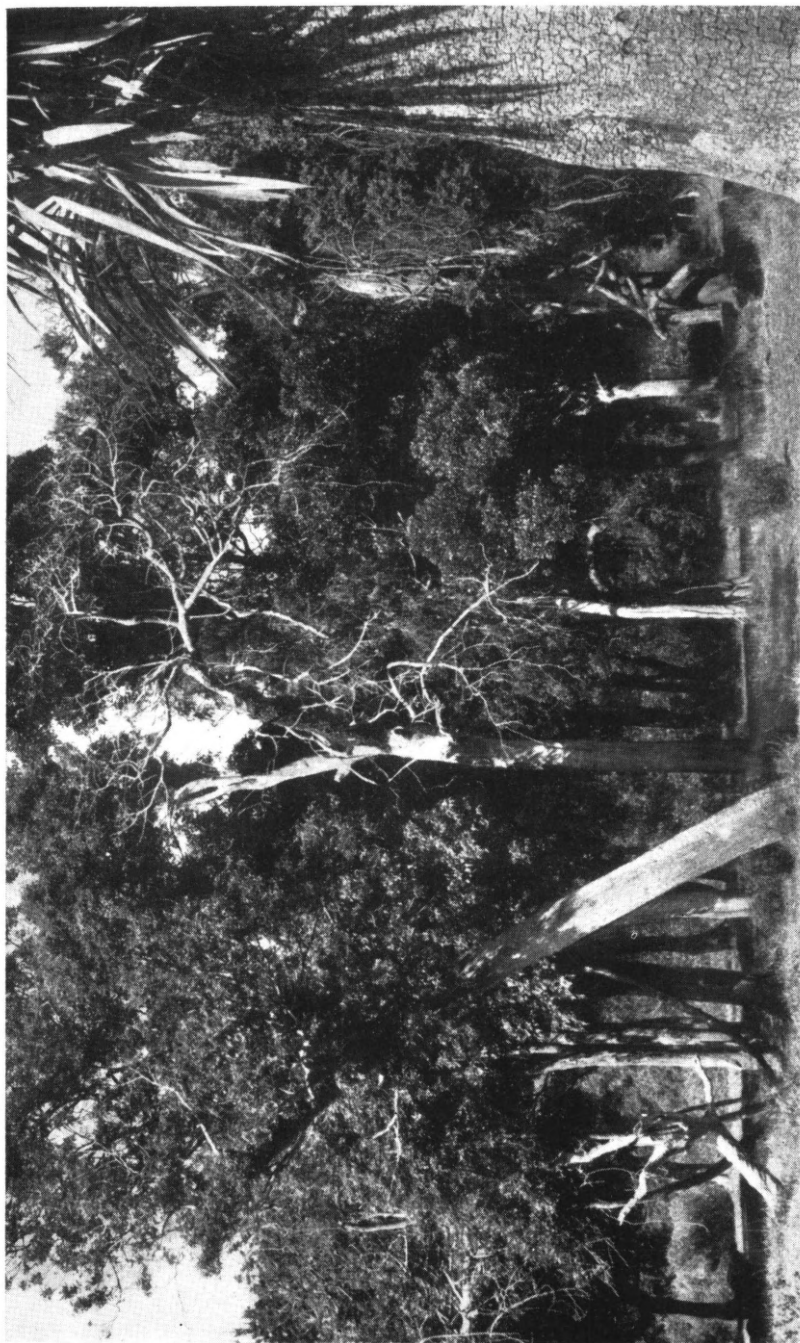
*The Banks Lecture: Keeble's bush is the finest of all remnants. View along the dry bed of the Maungatungaroa stream. (See page 255.)*

(Photo: A. E. Esler)



*The Banks Lecture: Buchanan's bush is typical of the better kahikatea remnants. (See page 255.)*

(Photo: A. E. Esler)



*The Banks Lecture: The last phase in forest degeneration. (See page 255.)*

(Photo: A. E. Esler)

portion thereto. There was considerable scope for expansion in horticultural products. Mr. Greig broadly assessed the value of horticultural production in New Zealand at approximately £25,000,000 annually, and this figure was increasing. There was a gross lack of qualified and trained personnel to administer and direct this increasingly important section of the Dominion's production. Mr. Greig moved the following motion:

'That the Royal New Zealand Institute of Horticulture approach the governing bodies of Lincoln and Massey Agricultural Colleges requesting that a Chair of Horticulture be established at the University.'

Mr. D. W. Goble, Secretary of the New Zealand Vegetable and Produce Growers' Federation, seconded the motion.

Mr. Goble stated that the Federation fully supported the promotion of a Chair of Horticulture. As a federation of commercial growers of vegetables, it was very concerned at the increasing number of vacancies in extension and advisory services in New Zealand. The establishment of a Chair would substantially increase interest and would ensure greater skill and qualification amongst those taking up horticulture as a career. The export of horticultural products to other countries would become a more important issue in the future. In the past, Horticulture has been lost sight of under the shadow of Agriculture which has predominated in the minds of governments and officials.

Dr. L. J. Stewart, Principal of Massey Agricultural College, announced to the Conference that his College Council had discussed this question of a Chair of Horticulture under three headings, namely:

(1) Is Horticulture of sufficient importance to warrant the establishment of a Chair?

(Answer was yes!).

(2) Does the Industry need and wish a Chair to be established?

(Opinion was yes!).

(3) Is the University system ready for the establishment of a Chair?

Dr. Stewart said that following upon such consideration and discussion, his Council had passed the following resolution:—

'That a Chair of Horticulture should be established at Massey College as soon as funds are available.'

Mr. J. H. Glazebrook, B.Sc. (Hort.), N.D.H., F.R.I.H. (N.Z.), of Lincoln College, supported the motion put forward by Mr. Greig. He realised that finance would be a vital issue. He considered that Horticulture had been subordinate to Agriculture far too long and that it had reached the stage when it was entitled to full recognition equally with Agriculture. The Lincoln College authorities were of the opinion that a Chair of Horticulture could well be established, but it must first be confirmed that it was warranted, from a national point of view. Facilities for horticultural students in New Zealand are urgent and vital, and it would be a pity if any argument arose as to where such a Chair should be established, assuming only one was to be created. The two Colleges should confer and agree amicably upon the location where the overall interests of the students can be served best and the best facilities are available.

The motion was carried unanimously.

#### *Opossum Menace:*

Mr. A. L. Poole, M.Sc., B.For.Sc., F.R.I.H. (N.Z.), Director of New Zealand Forest Service, was warmly welcomed by the Dominion President, and invited to initiate the discussion on this lively topic.

Mr. Poole outlined the steps being taken by the Government, through his Department, to endeavour to bring under control the menace presented by opossums throughout the Dominion. Such menace was widespread, reaching throughout the length and breadth of New Zealand. Rabbit Boards, which had so successfully controlled the rabbit pest in rural areas, had been invited to take up control of opossums in those same areas. Several Boards had already

taken up this responsibility, but it was realised that there were areas not covered by Rabbit Boards. In other localities occupier-organisations had been formed and it was hoped that more would set themselves up to cope with opossum menace. Such organisations had successfully eliminated the wallaby problem in the Waimate district.

The Forest Service was concentrating its efforts in the Crown Lands and National Parks where other boards or organisations could not operate. Particular attention would be given to the Native Forest areas of the West Coast, where the damage by opossums was very pronounced. It is noticeable that opossums team up with ground browsing animals, such as deer and goats, and any action against the opossum should be conjoined with control measures against these browsing pests.

Mr. A. Farnell, of Auckland, thought the word 'exterminate' should be used for opossums and not 'control.'

On behalf of the New Zealand Forest and Bird Protection Society, Mrs. A. J. DuPont, read a statement expressing the Society's concern at the irreparable damage being done by opossums to native bush, and consequently also to native bird life. The Society had once pleaded with the Government to offer a £50,000 reward to the person who produced a completely satisfactory answer to the problem of opossum eradication, but without avail. Since then, over £500,000 had been paid by the Government in opossum bounties (now discontinued) and still the opossum is the greatest pest problem being faced today. Private trappers of opossums should be encouraged to operate. Research into effective and permanent ways of control and ultimate extermination should be undertaken by the Government. The use of poison baits can create hazards for bird-life and farmers who use opossum meat for dog food. A continuous and effective campaign against opossums with the object of complete extermination should be instituted without delay on a nation-wide basis.

Mr. J. A. Hunter, N.D.H. (N.Z.), A.H.R.I.H. (N.Z.), of Auckland, said that Rabbit Boards were financed by rating on farmland. Farmers did not suffer much loss from opossum damage, whereas they did from rabbits, and for this reason they may not be willing to continue financing Rabbit Boards engaged in Opossum Control. There was much Maori land and forests which were not under Rabbit Board control. For these reasons Rabbit Boards were not the ideal solution to the problem.

Mr. V. C. Davies, O.B.E., N.D.H. (N.Z.), A.H.R.I.H. (N.Z.), of New Plymouth, expressed urgency in the matter of appropriate control measures. He instanced many valuable native trees and flora in Westland and in the National Parks around Mt. Egmont and Mt. Ruapehu being eliminated entirely by the ravages of this pest.

Sir Robert Macalister, A.H.R.I.H. (N.Z.), of Wellington, felt that official action in dealing with the problem up to date had been too slow, and nothing was yet visible to the public. Strong public action was needed. Sir Robert moved the following resolution, seconded by Mrs. M. Martin, F.R.I.H. (N.Z.), of Whangarei, and carried unanimously:—

'That the Institute approach the authorities for a much more effective control of the opossum menace throughout the Dominion.'

#### *International Horticultural Science Congress:*

Mr. V. C. Davies, O.B.E., of New Plymouth, referred to the holding of International Science Congresses in other countries at intervals of three or four years. New Zealand was officially represented on the International Council by Mr. A. M. W. Greig, Director of Horticulture. New Zealand was fortunate to have been represented at these Congresses in recent years, and Mr. Davies considered that the time had arrived to extend an invitation for an International Congress to be held in New Zealand. Mr. Davies moved the following motion, seconded by Mr. J. A. Hunter, and carried:—



'That an invitation be extended for the holding of the 18th International Horticultural Science Congress in New Zealand in the year 1970, after obtaining the approval and support of the Government.'

In connection with expense, Mr. K. C. Hockey, who had attended a previous Congress, said members attending would meet quite a portion of the expense themselves.

International Congresses of kindred sciences had already been held in New Zealand.

#### *Nomenclature:*

The Institute is the International Registration Authority for the genera *Leptospermum* and *Hebe*.

A growing collection of *Leptospermum* was being established at the Cockayne Memorial Garden, Christchurch, with the valuable help and co-operation of the Director of Reserves, Mr. H. G. Gilpin, and his staff. Any persons having specimens which they could donate to the collection are invited to send them to Mr. Gilpin.

#### *District Council Reports:*

The written reports of 11 District Councils, appended to the Conference Papers, were duly received without discussion.—(Houston/Boothby).

#### *Examining Board Report:*

In the absence of the Chairman of the Board, Professor H. D. Gordon, Mr. E. Hutt presented the Examining Board's report for the year. It was circulated beforehand as part of the Conference Papers. The Report was adopted, without discussion.—(Hutt/Greig).

#### *Estate A. M. L. Rumble, deceased:*

Mr. Percy Thomson, A.H.R.I.H. (N.Z.), a trustee of the Estate, gave a resume of the state of the Fund as at 9th February, 1962. The Fund, consisting of cash investments, a freehold property, and a library of books, was held by Trustees for the benefit of the North Taranaki District Council of the Institute in Stratford. The property was tenanted, and was not convenient for the holding of meetings. The question had arisen as to what could be done with the bequest, but any change of conditions would require the sanction of the Court. This was really a question for the North Taranaki District Council and the Trustees.

Mr. Percy Thomson, partner in the legal firm of Percy Thomson and Hugh D. Thomson, was thanked sincerely for the gratuitous services of his firm in administering the Fund over the years.

#### *Associates of Honour:*

On the unanimous recommendation of the Dominion Council the nominations of the following four persons for election to the distinguished office of Associate of Honour of the Royal New Zealand Institute of Horticulture (A.H.R.I.H. (N.Z.)) came before the Conference.

H. G. Gilpin, N.D.H. (N.Z.), F.R.I.H. (N.Z.), of Christchurch.

J. G. C. MacKenzie, N.D.H. (N.Z.), of Hastings.

R. L. Thornton, of Auckland.

A. White, N.D.H. (N.Z.), F.R.I.H. (N.Z.), of Lower Hutt.

Citations in support of these nominations were read to the meeting, and it was unanimously resolved that the distinction of 'Associate of Honour' be conferred upon these four persons. Messrs. Gilpin, MacKenzie and White were present and received their certificates at the hands of the Dominion President, who extended his personal congratulations to them. Mr. Thornton tendered his personal apology for not being able to attend.

*Remits:*(1) *From Canterbury District Council:*

'That this District Council respectfully requests that the Institute make a strong recommendation that currently acceptable botanical names (in particular those of native New Zealand plants) be used for all types of horticulture in New Zealand.'

Mr. Glazebrook expressed the opinion that Allan's *Flora of New Zealand* (Vol. I) could confidently be adopted as a standard work for botanical names. Mr. J. A. Hunter enquired what authority would be used for the many plant names not included in 'Allan'. There was a variance between existing world authorities.

*Resolved* that the remit be referred to the Nomenclature Committee for consideration and report to the Dominion Council.—(Greig-Gudex).

(2) *From North Taranaki District Council:*

'That Dominion Conference be asked to consider ways and means of informing and encouraging Local Bodies, Contractors, Builders, and the like, on the importance of preserving at least a few of the finer specimens of trees and shrubs that often exist, particularly when sub-dividing the older Estates for building purposes.'

(Note: It will be appreciated that far too often at the present time the bulldozer makes a 'clean-sweep' of all that comes in its path).

Introduced by Miss Iris Anderson, F.R.I.H. (N.Z.), who referred to new housing areas which were entirely void of any trees, and with no provision made for the later growing of them. Mr. Robinson of the Housing Division of the Ministry of Works, said there were difficulties in preserving existing trees in new developments, contractors having to work strictly according to specifications. Local Bodies could be asked to try and preserve some existing trees in new developments, as was done in the United Kingdom. Something more positive could be done towards preserving trees, using the Town and Country Planning Act 1953 as a means. Mr. J. A. McPherson, A.H.R.I.H. (N.Z.), N.D.H. (N.Z.), referred to powers which existed in the Fencing Act.

*Resolved* that the remit be referred to the Dominion Council.—(Anderson/McPherson).

(3) *From the Auckland District Councils*

(a) 'That this District Council suggests that the Institute give consideration to making the School Certificate the minimum qualification for all students desirous of proceeding to the National Diploma in Horticulture and the National Diploma in Fruit Culture.'

Introduced by Mr. J. A. Hunter, A.H.R.I.H. (N.Z.), N.D.H. (N.Z.), who said the examinations conducted by the Institute were an important function, and provided a record of which all could be proud. They were not receiving the adequate recognition, however, to which they were justifiably entitled, because of the absence of a pre-requisite standard of School Certificate or University Entrance. There is a growing need for higher technical education. In the United Kingdom an examination equivalent to the N.Z. School Certificate was a pre-requisite for the National Diploma in Horticulture.

Mrs. M. Martin, F.R.I.H. (N.Z.), of Whangarei, supported the remit and seconded the motion for its adoption, stating that everything should be done to lift horticultural education.

Dr. J. S. Yeates, A.H.R.I.H. (N.Z.), of Palmerston North, said the Manawatu District Council opposed the remit for two reasons:

- (1) The standard attained at the end of the Diploma Course, and not the standard of the student at the commencement, was the thing that counted.
- (2) Provision is now made for students without school certificate but they must reach school certificate standard in General Science or Chemistry for the Diploma.

By granting provisional Entrance Examinations in certain circumstances, Universities can permit the taking of Degrees without a pre-requisite qualification by examination.

Mr. M. J. Barnett, M.B.E., A.H.R.I.H. (N.Z.), N.D.H. (N.Z.), of Christchurch did not support the remit, and spoke from experience as chief examiner of the Oral and Practical examinations. He did not approve the School Certificate being applied as a 'yardstick'. Many of the best horticulturists today were without School Certificate qualifications. 'The cream will come to the top,' said Mr. Barnett.

Mr. J. A. McPherson, A.H.R.I.H. (N.Z.), N.D.H. (N.Z.), of Auckland, said the Auckland District Council considered something should be done about this, seeing the Public Service Commission had raised an objection on this ground.

Sir Robert Macalister, A.H.R.I.H. (N.Z.), of Wellington, spoke of the submission made to the Royal Commission on N.Z. State Services, during which, he felt, the members of the Commission had been impressed by the strength of the Syllabus and that a candidate could not pass unless he reached up to School Certificate standard.

Mr. R. Syme, A.H.R.I.H. (N.Z.), of Hawera, felt that many youths developed a deep interest in horticulture after school age and came from non-academic groups.

Mr. Robinson reaffirmed that horticulture is an art and craft, not merely academic.

Mr. C. Cates, of Whangarei, considered that the remit had been put forward to meet a specific need and, unless adopted, the Diploma would continue to be not adequately recognised.

Mr. J. A. Hunter, of Auckland, said the average student could obtain school certificate if urged to do so.

The remit was put to the meeting in the form of a motion, but was declared 'lost' on a show of hands.—(Hunter-Martin).

- (b) 'That where a School Certificate is not held, the Royal New Zealand Institute of Horticulture make the necessary provision for a Certificate of Horticulture to be issued to students who have attained a specified standard of proficiency in Horticulture.'

Introduced by Mr. J. A. Hunter, A.H.R.I.H. (N.Z.), who explained that it was promoted to give encouragement to those who did not reach up to School Certificate standard, as required if Remit (a) were adopted.

Mr. C. Cates (Whangarei) seconded the motion.

The Chairman ruled that the motion (Remit (b)) was now out of order, in view of the failure to approve Remit (a).

- (c) 'That this District Council recommends that the Institute give consideration to the holding of the yearly Practical and Oral examinations after the written examinations.'

Resolved that this remit be referred to the Examining Board.—(McPherson/Gudex).

- (d) 'That this District Council views with grave concern the disadvantages placed on the North Island students sitting the Oral and Practical examinations and recommends that the Institute give consideration to the holding of these examinations in the North Island in alternate years.'

In introducing this remit, Mr. J. Hunter reiterated the aims of the Institute to 'assist and promote horticultural education in every way'. There was an obligation to avoid inequality for students. At present, some students were required to travel great distances to attend Oral and Practical examinations.

Mr. J. C. Whibley, of Palmerston North, expressed concern at candidates having to travel to Christchurch for a one-day examination, when the examinations could be held equally well in both Islands.

The remit was duly approved and referred to the Examining Board.—(Hunter/McPherson).

(e) 'That this District Council considers that the Royal New Zealand Institute of Horticulture should take more positive action concerning the remit passed last year re Litter in Public Places.'

Introduced by Mr. A. Farnell, F.R.I.H. (N.Z.), of Auckland, who expressed the opinion that a nation-wide campaign against litter should be instituted. He was ashamed of the condition of beaches, sportsgrounds, and public places through litter.

Mr. M. C. Gudex, A.H.R.I.H. (N.Z.), of Hamilton, suggested using the same methods as adopted by Fire Hazard Prevention and Road Safety campaigns. Radio, press, public lectures, should all be used to assist in combating litter.

Dr. J. S. Yeates, A.H.R.I.H. (N.Z.), of Palmerston North, thought that some 'teeth' should be given to existing laws against litter, as in other countries.

The remit was approved.—(Farnell/Cates).

#### *Dominion Presidency:*

Mr. John Houston, O.B.E., A.H.R.I.H. (N.Z.), of Hawera, had earlier announced that he would not seek re-election to the office of Dominion President. He had served for seven years.

Mr. J. F. Living, F.R.I.H. (N.Z.), of Wellington, had consented to nomination, in succession to Mr. Houston. Mr. Living was duly elected, there being no other nominations.

Mr. Living expressed the sincere regret of members at the retirement of Mr. Houston and spoke of the outstanding work he had done for the Institute during his term of office. The feelings of members were expressed in a framed certificate presented to Mr. Houston. At the request of Mr. Living, Mr. Houston presided over the remainder of the Conference. Other members supported Mr. Living's remarks, to which Mr. Houston responded in characteristic style.

Mr. Houston was elected to the Dominion Council, on the nomination of Mr. Living, seconded by Mrs. DuPont.

#### *Election of Officers and Dominion Council:*

The election of Officers and Dominion Council was carried out in accord with the Constitution of the Institute.

#### *1963 Dominion Conference:*

An invitation from the Canterbury District Council to hold the 1963 Dominion Conference in Christchurch was accepted.

#### *1964: Dominion Conferences*

The Waikato District Council would be extending an invitation for the holding of the 1964 Dominion Conference in Hamilton.

*National Parks Authority:*

Mr. R. Syme, A.H.R.I.H. (N.Z.), of Hawera, referred to representation on the nine National Parks Boards, which was open to interested organisations who may nominate representatives. Resolved that this matter be referred to the Dominion Council.

*Judging Handbook:*

Mr. J. A. Hunter, A.H.R.I.H. (N.Z.), on behalf of the Auckland District Council, said that a report would be presented at the next meeting of the Dominion Council.

*Mr. J. H. Glazebrook — Personal:*

Mr. J. O. Taylor, of Christchurch, referred to the pending departure of Mr. Glazebrook, who had taken up an appointment in England.

Resolved to place on record the Institute's sincere appreciation of the contribution made by Mr. Glazebrook to Horticulture in New Zealand. Mr. Glazebrook suitably replied.

*Appreciation:*

On behalf of the ladies, Miss I. Anderson, of New Plymouth, expressed their sincere appreciation of the personal attendances and courtesies extended to them during their stay in Palmerston North for the Conference.

*Address by Dr. J. S. Yeates, A.H.R.I.H. (N.Z.), of Palmerston North:*

The day session of the Conference was concluded with a most interesting talk by Dr. Yeates, entitled 'Some Impressions of Street Planting as gained from a visit to the Pacific Coast of North America,' illustrated with colour-transparencies.

A motion of thanks to Dr. Yeates was moved by Mr. J. F. Living and carried with acclamation.

*Banks Lecture, 1962:*

'Forest Remnants of the Manawatu Lowlands' was the title of the 1962 Banks Lecture delivered by Mr. A. E. Esler, M.Agric.Sc., of Massey College, Palmerston North, at the evening session of the Conference. The measure of appreciation of Mr. Esler's lecture could well be judged by the hearty acclamation accorded him.

*Loder Cup Presentation:*

Preceding the Banks Lecture, opportunity was taken to present the Loder Cup to Mr. C. T. Keeble, winner of the Award for 1961. The presentation was made by Mr. A. M. W. Greig, Chairman of the Loder Cup Committee, in the unavoidable absence of the Minister of Agriculture. A brief yet fitting ceremony paid worthy tribute to Mr. Keeble for his efforts in preserving for posterity an outstanding stand (30 acres) of native virgin forest, into which 'neither man nor beast had set foot.'

*Thanks:*

A most successful Conference was brought to a close by the valedictory remarks of the Chairman, Mr. Houston, and his expression of sincere thanks to all who had worked so hard to ensure the success of the Conference; in particular to the Manawatu District Council for their hospitality, Dr. J. S. Yeates, and the Superintendent of Reserves, Mr. D. C. MacKenzie, for their attention to the comfort and needs of delegates and visitors.

## ASSOCIATES OF HONOUR.

**Citation in support of the Nomination of  
MR. H. G. GILPIN, N.D.H. (N.Z.), F.R.I.H. (N.Z.),  
Nominated by the Canterbury District Council.**

Mr. Huia Gray Gilpin is Director of Botanic Gardens, Parks and Reserves, for the City of Christchurch. His early horticultural experience was gained as an apprentice and, later, journeyman to the commercial nursery firm of Messrs. W. E. Edginton, of Riccarton, head gardener to Messrs. T. J. Edmonds, the well-known factory garden. In 1939 he passed his final examination for the N.D.H.

Following the war, he joined the staff of the Dunedin Botanic Gardens, Parks and Reserves Department, in charge of the propagation department. In 1947 Mr. Gilpin was appointed to the position of grounds superintendent for the North Canterbury Hospital Board. During this period he developed the grounds at Burwood Hospital and Cashmere Sanatorium, where his knowledge of vegetable production was particularly valuable.

In 1949 Mr. Gilpin became Assistant Director of Parks and Reserves, Christchurch. He held this position until he was promoted to Director on the retirement of Mr. M. J. Barnett in 1955. Mr. Gilpin has been Chairman of the Canterbury District Council of the R.N.Z.I.H. Inc., and has been a member of the Canterbury Horticultural Society's Management Committee since 1947 (Deputy Chairman for 1961). By judging at shows, lecturing, providing papers and giving demonstrations he has contributed to the advancement of horticulture. He is a keen supporter of the Native Flora Society, Summit Road Scenic Society, Orchid, Begonia and Fern Societies and others.

Mr. Gilpin was one of three New Zealand representatives at the first International Congress of Park Administration, London, 1957, and became a Foundation Member.

**Citation in support of the Nomination of  
MR. J. G. MACKENZIE, N.D.H. (N.Z.), F.R.I.H. (N.Z.),  
Nominated by the Wellington District Council.**

Mr. John Gretton MacKenzie served as a trainee in the Dunedin City Council Reserves Department for four years under the late Mr. D. Tannock, gaining experience in all branches of horticulture.

After two years' training as a student at the Royal Botanic Gardens, Kew, he was granted a third year for specialised work. He was granted the Student Gardener's Certificate, after serving as senior student gardener in the Arboretum Nursery. Mr. MacKenzie was also awarded the Mutual Improvement Society's prize, one of four competed for annually by fifty students of many nationalities who trained at Kew.

Returning to New Zealand, Mr. MacKenzie was appointed as Propagator and Nursery Foreman to the Wellington City Council. A year later, at the age of 26, he was appointed Superintendent of Parks at Hastings. Here he was awarded the Diploma of Horticulture of the R.N.Z.I.H. and the Cockayne Gold Medal in 1935.

During the past 26 years, Mr. MacKenzie has been responsible for the extension of the parks and gardens from 30 acres of partially developed land to 200 acres fully developed and well maintained parks. During the war he initiated a scheme for the growing of vegetable and medicinal plants, and later served overseas.

For 25 years, Mr. MacKenzie has been a member of the Executive committee of the Hastings Horticultural Society, and has been largely responsible for the introduction of the Spring Festival Show. A member of the Institute of Parks Administration for many years, he has frequently presented papers at the Annual Conference. He has acted as examiner for practical subjects for the Junior and Intermediate Examinations, in association with the late Mr. Hyde of the Horticultural Division, and Mr. C. Corner, until examinations were centralised.

Mr. MacKenzie has done much to advance horticulture in Hawke's Bay where he has given addresses to local organisations, delivered broadcasts and lectured Adult Education Groups, Farm and Forest Schools, Horticultural Societies and High School night classes.

**Citation in support of the Nomination of**

**MR. R. L. THORNTON,**

**Nominated by the Auckland District Council.**

Mr. Roy Leslie Thornton gained a portion of his early experience at the nurseries of Messrs. D. Hay and Sons, where he was head propagator, and later became manager. In 1934 he was appointed horticulturist to the New Zealand Railways Department, where he made extensive use of the native flora. Mr. Thornton can be credited with the laying-out of some of the larger private gardens in the Remuera and Epsom districts of Auckland, including the Middlemore Hospital grounds, occupying 40 acres. He was also responsible for landscaping the grounds of Avondale College, and the use of native trees and shrubs to beautify the difficult site of Musick Point, Auckland.

Mr. Thornton is horticultural supervisor to the Mount Smart Domain Board, where one of the largest projects of its kind in this country is being carried out, consisting of an amphitheatre, capable of holding 100,000 people around a central sports area. It is expected that this Olympic Stadium, when finished, will be one of the finest in the Southern Hemisphere.

Among his many horticultural activities, Mr. Thornton has formed and guided many new horticultural societies. He is President of the Auckland branch of the New Zealand Compost Society, a constant lecturer over a wide area and a well known horticultural broadcaster. Since its inception, Mr. Thornton has been closely associated with the Auckland Horticultural Council Inc., comprising 60 affiliated societies, totalling 6,000 members.

Mr. Thornton's drive and organising ability has done much towards the advancement of horticulture in Auckland and the surrounding district.

**Citation in support of the Nomination of**

**MR. A. WHITE, N.D.H. (N.Z.), F.R.I.H. (N.Z.),**

**Nominated by the Wellington District Council.**

Mr. A. White, Director of Parks and Reserves to the Lower Hutt County Council, has had over 40 years' experience in practical horticulture. This does not include two years with the armed forces in World War I.

Mr. White's early horticultural career was spent as an apprentice at Riccarton House, Edinburgh, a journeyman gardener at Calender House, Stirlingshire, from which he was appointed gardener to Mrs. R. H. Rhodes of Timaru. From 1921 onwards Mr. White was responsible for the planning and planting of the 10-acre town property 'Carne' of Mrs. Rhodes. This included many noteworthy plants imported from England. Three years later Mr. White obtained a position on the staff of the Botanic Gardens, Dunedin, under the late Mr. D. Tannock, where he gained valuable experience in municipal gardening.

Mr. White's first executive position was with the Waimate Borough Council, during which period he was responsible for the development of 17 acres of waste land into the Victoria Park. Seven years later Mr. White was appointed the first Superintendent of Parks and Reserves to the Nelson City Council. During his term of office he planned and planted many public places, formed tennis courts and sports fields, introducing many new trees and shrubs. Three years were occupied in the work of redesigning and planting Church Hill, a Nelson Centennial effort of first importance. In 1947, Mr. White was appointed to his present position of Director of Parks and Reserves to the Lower Hutt City Council, where his work bears ample witness to his ability as an efficient administrator with creative capabilities.

Among his other achievements may be noted the formation of the Waimate Horticultural Society, of which he was President for six years. He was for five years President of the Nelson Horticultural Society, and has organised and arranged outstanding exhibits at the National Shows held at Dunedin and Christchurch. He has given many lectures and demonstrations to a number of horticultural organisations, is a Vice-President of the Lower Hutt Horticultural Society and a member of the R.N.Z.I.H. Dominion Council and Examining Board. He is also a Fellow of the New Zealand Institute of Park Administration, a member of its Executive and an Associate of the New Zealand Institute of Foresters.

## *An Invitation . . .*

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*Are cordially invited to visit our extensive Nurseries at New Plymouth. Our unique collection of TREES and SHRUBS is widely known as the most comprehensive in the Southern Hemisphere. New and interesting novelties are constantly being added to the vast range of established favourites.*

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**VALEDICTORY**

Horticulture is so considerable in the extent of its ramifications that attainment of a complete knowledge of the subject appears to be infinitely difficult. Yet as surely as the awakening growth of Spring succeeds the rigours of Winter, so surely may the attentive mind advance in knowledge. Like the intrepid explorers of the days when the world was younger, the true student ever seeks new horizons.

The time has come for me to make my adieux to this Chair after seven happy years. You have all been very kind to us both. Mrs. Houston and I have appreciated that. Your co-operation has been more than generous. Co-operative kindness is a characteristic of those who follow that most interesting of pursuits—horticulture. Iron will rust: silver will tarnish: but the pure gold of horticulture will for ever remain unchanged.

JOHN HOUSTON,  
President.

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**IMPRESSIONS OF THE CONFERENCE.**

*M. C. GUDEX*

Business, entertainment, instruction, tripping round, first-class organisation, with sociability and goodwill pervading all the varied activities of the Conference — those are some of the impressions made upon an old attender.

Once again the Conference started splendidly — what beginning could be better than the twenty-seven mile drive (in four City Council buses) to the Pohangina Scenic Reserve on the Tuesday afternoon? We saw the excellent Y.M.C.A. camp there, and perhaps thought the bush was the usual mixed rain forest until we discovered the huge totara trees. After seeing them, and, standing dwarfed beside them, one could appreciate the insight and the mental alertness of the Maori when he compared a hero to a giant totara.

On the Tuesday evening colour slides displayed and concisely described by Mr. D. C. Mackenzie, Superintendent of Parks and Reserves, showed clearly the amenities provided by the Palmerston North City Council.

After the colour slides came an entertainment organized by Councillor J. A. Colquhoun, Chairman of Reserves of Palmerston North, and compered amusingly by Mr. Bert Pizzey. Impersonations, magic, imitations, songs, pianoforte duets and stories followed one another with bewildering speed, but a special bouquet should be handed to the Pakama Orchestra for its very fine items. And so to bed? Oh no! There was a tempting supper then, generously provided by the City Council.

Next morning the business sessions began, and our chairman hurried the work along quietly until the arrival of the Mayor, Mr. G. M. Rennie, J.P., and Mr. W. H. Brown, M.P., who had to act as deputy for the Minister of Agriculture, at unavoidably short notice.

Morning tea. Business. Lunch. Business. Afternoon tea. Then Dr. Yeates's beautiful slides showing the features of some cities in Canada, Oregon, Washington and California. The text for his talk might well have been 'Away with your forests of telegraph and power poles.' And now a scamper and a scurry to the buses which conveyed us to Massey College for the cocktail party — a banquet, rather!

That scene will surely live long in the memories of many visitors: the creeper-clad walls, the trim lawns, the portly and cheery Mayor, the eight City Councillors and their consorts, the most potent, grave and reverend signiors, the bright dresses and the animated voices of the ladies, the eagerness of the student cup-bearers and over it and around it all, the brightness and the peace of a summer afternoon. It was a new version of the Lotus-eaters.

Then Wednesday evening, with the two greatest features of the Conference: the presentation of the Loder Cup and the delivery of the Banks Lecture.

This year's winner of the Loder Cup, Mr. C. T. Keeble, has for over 60 years preserved 30 acres of virgin bush. But he has preserved more than that in his 80 years — his health, his humour, his cheerfulness and his unspoilt simplicity.

The Banks Lecture was delivered clearly and interestingly by Mr. A. E. Esler, a lecturer at Massey College. His subject, 'Forest Remnants of the Manawatu Lowlands,' allowed him scope to deal effectively with the past, the present and the probable future of the Manawatu bush. The older members of the Institute were delighted to find in Mr. Esler a young man who would build worthily on the foundation which they had laid.

Thursday was another full day with its flower show (to which all delegates were invited), a mannequin parade (to which the ladies were invited), and a conducted tour through the orchards, glasshouses and plant material at Massey College.

And so another fine Conference has been added to its thirty-eight predecessors, but any account that failed to honour the retiring President, Mr. J. Houston, O.B.E., would be hopelessly incomplete.

Let Chaucer sum up for us:

'And, certainly, he was a good fellow.'

## PALMERSTON NORTH HORTICULTURAL SOCIETY'S FLOWER SHOW

At 2.30 p.m. on Thursday, 15th February Mr. John Houston, O.B.E., A.H.R.I.H.(N.Z.) performed the opening ceremony of the Palmerston North Horticultural Society's Flower Show.

February is not an ideal time for flower shows. Many soils have become dry through lack of rain and good blooms are scarce. This year, however, the weather has been more kind than usual, and rain in January and a week before the show helped matters considerably. The result was a really well staged and enjoyable exhibition of seasonal flowers, by both amateur and professional horticulturists.

The Department of Agriculture staged an exhibit demonstrating their advisory service, especially in the matter of the eradication of pests and the control of plant diseases. There was also matter relating to pollination research and it was interesting and encouraging to note that experiments with specially prepared sprays would destroy the harmful insects without in any way damaging the honey bees, a discrimination that will be welcomed by apiarists and orchardists.

Palmerston North City Council staged an attractive display of flowering shrubs in season. While many of the well known favourites were represented, others that are less familiar were also displayed. Among these latter were *Ceratopetalum gummiferum*, the Sydney Christmas Bush, *Koelreutheria paniculata*, with trusses of bright yellow flowers, (this was the original inspiration for the 'willow' in the well-known Willow Pattern plate), *Christya grandiflora* (syn. *Strophanthus speciosus*) is a little known plant from South Africa with attractive clusters of orange yellow flowers, spotted red. The unusual seed pods are shaped like the letter V. *Sesbania tripetii* (syn. *Daubentonia tripetii*) from Argentina, is a shrub with orange red flowers and a yellow base.

The Rose Society staged a display of roses which were very good for the time of the year and it was interesting to see a vase of the climber 'Mermaid', an old favourite single yellow. It brought memories of this rose growing and flowering well on the stone built mansions of the North Cotswolds.

Massey College arranged an excellent collection of perennials with emphasis on blue and white flowers and silver foliage. *Salvia farinacea* 'Blue Bedder' can be seen grown to good massed effect in the College gardens, and it was well represented here. *Salvia virgata* var. *nemerosa* is very effective in the mass and looked well in contrast to such perennials as *Gypsophila paniculata* 'Bristol Fairy' and secondary spikes of delphiniums. *Gaura lindheimeri* and *Salvia uliginosa*, that flowers from spring until late summer, were also represented among others. A good cropping tomato haulm grown under soil-less cultivation was also exhibited, also various apples grown on the dwarfing stock East Malling No. ix.

There were well arranged trade exhibits by Messrs. Shailer's (dahlias), Mr. Hollows (early chrysanthemums), Messrs. Harrison & Co. Ltd. (modern *Lilium auratum* hybrids), Lyndhurst Gardens (*Gladioli*) and Coral Rosa (floral arrangements).

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### LODER CUP AWARD.

The Loder Cup for 1961 has been awarded to Mr. C. T. Keeble, of Fitzherbert, Palmerston North. The presentation was made on 14th February, on behalf of the Minister of Agriculture (Mr. Talboys) who was unavoidably absent, by Mr. A. M. W. Greig, Chairman of the Loder Cup committee and Director of the horticultural division of the Department of Agriculture.

Dr. J. S. Yeates, who presided, described Mr. Keeble as a highly respected resident of the Manawatu. The award, to him, of the Cup was very much in accord with the purposes for which it was given. Mr. Keeble was nominated by the Manawatu district council and by Massey Agricultural College Council. On behalf of the latter Mr. Keiller said that Mr. Keeble had shown vision and foresight when, in his middle twenties, he had decided to preserve the bush on land which had a high productive potential for farming. On this land Mr. Keeble had paid rates for 60 years. He was a true lover of the bush, its flora, animals and birds. Mr. Greig pointed out that this was the second time the Cup had come to the Manawatu-Rangitikei district. In 1935 it had been presented to the Bruce Trust of Silverhope, and to the A. S. Simpson Domain at Hunterville. Mr. Greig appealed to all land-owners to follow Mr. Keeble's example.

The area of 30 acres of native bush preserved by Mr. Keeble, on his farm near to Palmerston North, is probably the only surviving block of Manawatu lowland forest. Mr. Keeble fenced this area off from the rest of his farm 60 years ago and no stock has been allowed to enter it. The only visitors allowed in it have been occasional botanists. The public and even parties of botany students have not been allowed to enter. To assist in the protection of this bush from gales, exotic trees have been planted on the periphery. This has minimised storm damage to a considerable degree.

The land occupied by this bush is valuable farm land and, in the interests of its preservation, Mr. Keeble has sacrificed its high productive potential and paid rates annually over the years. He is now over 80 years old, but he has arranged his affairs so that this bush will remain a strictly protected reserve. By his unselfish and generous action Mr. Keeble has preserved for posterity an unique example of our primitive vegetation. For further reference to Keeble's Bush refer to the Banks Lecture on page 255.

**NOTES FROM THE CHRISTCHURCH BOTANIC GARDENS**

L. J. METCALF, N.D.H.(N.Z.) *Assistant Curator.*

As with some other parts of the country, Christchurch has for the past few months been suffering badly from drought. Since September there has been virtually no rain, (less than three inches being recorded in the past four months) and to aggravate the situation, strong drying winds have been very frequent. In addition 1961 was the fourth successive year with below average rainfall. Over the past few months air and earth temperatures have been well above average and January with a mean temperature of 65.6° F was the second hottest on record.

With such conditions prevailing it is to be expected that many plants will have found them very trying, while others have flourished. There has been a considerable amount of injury to plants. Magnolias, rhododendrons and azaleas suffered from leaf scorch, *Euonymus japonicus* in particular being badly attacked by mildew, and quite a number of plants not usually so affected, have been infested with red mite.

What is now fairly certain is that if an adequate water supply had not been available, plant losses would have been high, and in all probability even some of the large trees would have been affected. It is extremely fortunate that about three years ago it was decided to replace the old pump which pumped water from the, at times dubious supply of Avon River and, at the same time, completely replace the reticulation system throughout the Gardens. The first step in this rather large undertaking was to sink a six inches artesian well which has an estimated maximum capacity of 60,000—70,000 gallons an hour. Connected on to this well is a new electric motor and pump which is capable of delivering 18,000 gallons an hour at 60 lbs. pressure. When a large volume of water is not required there is an automatically operated reciprocal pump and pressure tank. While the pump was being installed a start was made laying new water mains. The new reticulation system was planned with the help of the City Engineer's Department and to gain an idea of the size of the system it is only necessary to mention that when completed, more than three miles of piping will have been laid—enough to service a small town.

Commencing at the pump a six inch main leads into the grounds where it is gradually broken down to four inch, three inch, and finally two inch piping, with one inch laterals going to the various water points. In the first season the six inch main and some of the four inch pipes together with a few laterals were laid. Last season the balance of the four inch pipes and the majority of the three inch were laid, some 30 water points being put in at the same time. During the coming winter it is hoped to be able to complete the scheme, so that all parts of the Gardens will then be well supplied with water.

At various points throughout the Gardens three inch hydrants have been installed so that the irrigation system can now be coupled onto

the mains instead of relying on an auxiliary pump working from the river. This irrigation system, which was purchased several years ago, has been of tremendous benefit this season and has done much to ward off any disaster which may have been caused by the drought. For the past few weeks, weekends excepted, the irrigation and all watering appliances have been going day and night and it is estimated that each week more than 2,000,000 gallons of water are used in the Gardens. So effective have these measures been that lawns which were badly browned off before Christmas are now green again, and many plants are making good growth. So although the scheme is only about two thirds completed, it has more than proved its worth.

With the warm conditions prevailing, some plants have done very well. One which is in full flower at the time of writing is *Caesalpinia gilliesii*. This shrub is not very common around Christchurch, and a plant of it growing along the northern side of the Townend House has attracted quite a lot of attention. Another uncommon plant growing in the same border is *Wachendorfia thyrsiflora*, a South African herbaceous plant. It has rather long plaited leaves and the flower spike grows to about three feet in height. The flowers are bright yellow, borne freely and produced in November and December. Although not needing the protection of a wall, *Vitex agnus-castus* is growing in the same border. During January and February the racemes of pale violet flowers make it a most useful shrub, and it deserves to be more popular with local gardeners.

This season the New Zealand brooms flowered exceptionally well and it is a great pity that they are not better known with gardeners. The two most handsome genera are *Chordospartium* and *Notospartium*. The mono-typic *Chordospartium* is reasonably well known in some gardens, but the species of *Notospartium* are virtually unknown. The habit of *Chordospartium stevensonii*, being somewhat like a small leafless weeping willow, makes it a particularly fine shrub for the garden. During November to January, when it flowers, a well grown bush of this species is a most attractive sight. Even more striking is *Notospartium glabrescens* which has a semi-pendulous habit and in the Botanic Gardens makes a rounded bush some 10—12 feet in height. When in full bloom the mallow purple coloured flowers literally cover the bush. One of the few drawbacks noticed with these plants is the way odd branches will die for no apparent reason.

With the coming of autumn attention will naturally switch from flowers to foliage and, with the hot, dry summer which has been experienced, there could be one of the best displays of autumn colour for several years, if the right conditions prevail over the next month or so. The best parts of the Gardens for autumn colour are the Bog Garden, Beswick's Walk, the maple borders and the Cherry Mound. These areas are all at their best during April and May and are well worth visiting.

On the Pine Mound *Protea cynaroides* will be flowering in March and on the Rock Garden displays of *Cyclamen neapolitanum* and *C. neapolitanum* 'Album', *Crocus* spp., and *Polygonum vacciniifolium* add to the general displays. In April the varieties of *Camellia sasanqua* near the administration block will be in full flower and should be worth visiting. Quite a number of other interesting plants may be seen in the Gardens during this period, especially the collection of *Rosa* species in the Woodland, and these, together with the various autumn foliage displays ensure that the Gardens can be every bit as interesting now as they are in the spring.

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## NOTES FROM THE DUNEDIN BOTANIC GARDENS.

R. W. BALCH, N.D.H. (N.Z.)

The larger Parks Departments and Botanic Gardens in New Zealand, which provide floral displays in glasshouses and by bedding schemes have, behind the scenes, often unnoticed by the general public, a wide range of equipment for propagating and producing the necessary plants. This includes all manner of labour-saving machines and mechanical aids so that the staff available, which is often strictly limited, can devote its energies to the essential work that must be done by hand. The specialised types of buildings and other constructions required to provide the right conditions for growing annually the many thousands of plants, needing widely differing conditions for successful growth, are also part of this equipment.

In looking back over the last thirty or forty years of public, commercial and private gardening, it is very interesting to note the improvements and new introductions in both equipment and technique which have occurred. But whether we are always producing as healthy, vigorous and free-flowering plants as before is possibly a debatable point. It is also very interesting to find what is still virtually unchanged over that period. Some important changes which come to mind are the use of electricity for heating, ventilating, watering and sterilizing: the larger and heavier panes of glass used in glasshouse construction: the provision of standard seed and potting composts: the invention of soil shredding machines: and the introduction of plastics in its many forms viz. polythene, fibreglass, and in the manufacture of pots, hose, labels etc., etc.

One of the humbler, though very necessary constructions which seems to have been rather overlooked in this continual striving for improvement, seems to be the ordinary garden frame, which plays a vital part in most climates in the hardening-off of those glasshouse raised crops, which are destined for planting in the open ground. In an endeavour to correct this state of affairs, some experimental work has been done at the Dunedin Botanic Gardens, with the following results.

For many years the frames used in the Propagating Department of the Dunedin Reserves Department for the hardening off of young plants have been those constructed of wooden or concrete sides and ends, with wooden plates and astragals and glazed lights. Wooden blocks are used to give a little ventilation in any of three positions. To open fully, the front end of the light is lifted by hand and hooked on to an overhead galvanized pipe structure. To open completely, it is necessary to remove the lights entirely and stack at the end of the row of frames.

These frames have many disadvantages, most important of which are that:—

They require constant maintenance by tradesmen in the matters of painting, replacing of broken panes, repair of woodwork etc.

They must be closed in windy conditions, or breakages will occur. In cases of sudden gusts of wind, damage can be done before there is time to close them.

They are heavy, awkward and slow to operate, particularly where female staff is employed.

The risk of serious injury by broken glass is always present.

Some type of shading is needed for tender plants.

There is much hindrance to the rapid and easy handling of large numbers of bedding boxes and flower pots.

In an endeavour to minimise these disadvantages, the following type of frame has been devised by the Department's staff and constructed in the Department's workshop during the last year or so, with very satisfactory results. Two concrete frames, each 24' by 6', were stripped of all woodwork — plates and astragals — and the overhead suspension gear removed. The tops of the concrete sides and ends were plastered to give a smooth surface. For each frame, two aluminium alloy frameworks for lights were made, 12' by 6', to take four 6' by 3' sheets of flat opaque fibreglass. These frameworks were made of angle sections and tophat sections welded together, the fibreglass being fastened in place with flat strips secured with pop rivets, all of aluminium alloy. The main part of the framework was attached to the concrete with stainless steel screws, the under-surface of the aluminium alloy in contact with the concrete being painted with bitumistic paint, to avoid reaction between the concrete and the aluminium. The movable part of the framework containing the fibreglass was hinged along the back edge with butt hinges, and is raised or lowered by means of a single square-thread screw driving two arms, operated by a detachable winding handle to each section. When fully open, the angle from the horizontal or closed position is approximately 50°.



With this type of frame, the disadvantages of the older type have been largely eliminated, so that no painting or glazing is necessary, and all metal parts are rust-resistant and non-corrosive; there is no woodwork of any description, while periodic oiling of moving parts is the only maintenance required. It is not possible to forecast the effective life of this construction, but it should be that of the fibreglass, and so be serviceable for many years at least. Being securely held by the two arms in any position, the fibreglass lights are quite rigid, though flexible when open, even in strong winds, so are not liable to be damaged when caught in the open position by a sudden gale, as glass lights so easily are. Operation is extremely rapid and very easy, with no risk of injury to the operator. Obstruction of light and air is reduced to the minimum, while ease of handling bedding boxes and pots is helped through the elimination of overhead suspension gear and astragals, and the higher opening of the lights themselves. No shading is required, due to the opaqueness of the fibreglass. When closed, an almost airtight fit is obtained, which is most advantageous for fumigating purposes and for a close humid atmosphere. When open, no run-off of external moisture or rain can penetrate the frame in the form of heavy drips. Although the lights cannot be removed entirely, as with the older type of frame, the greater degree of opening renders this unnecessary.

Although the initial cost is not light, it is the only cost. Even so, where the construction can be done in a Department's own workshop, it compares favourably with that of a well-constructed wooden topped frame with glazed lights, without taking into consideration the high annual maintenance costs of this latter type. Not allowing for the concrete or brick sides and ends, the cost of a 10' x 6' aluminium alloy and fibreglass frame has been approximately £80 (material £45 and labour £35). As time and finance permit, a gradual replacement of existing frames by this new form is contemplated. Modifications will doubtless be required, in particular where frames are built at the base of a greenhouse, or back to back with one another.

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## NOTES FROM THE WELLINGTON BOTANIC GARDENS.

*I. A. McGREGOR.*

Over recent years the popularity of Wellington's Botanic Gardens, for pleasure and interest, has greatly increased. This is partly the result of the steady development, which has taken place over recent years, and partly due to the construction of the Norwood Begonia House, in conjunction with the Lady Norwood Rose Garden. New paths and a look-out, from which the Rose Garden, the Begonia House, Anderson Park and the northern parts of the city and harbour can be viewed with advantage, have been valuable additions. Today, this area attracts lunchtime

visitors, whose numbers approach those of weekend visitors of a few years ago.

The roses in the Lady Norwood Rose Garden commenced to flower a little earlier this year, the massed display during November and December being a wonderful sight. A large bed of 'Buccaneer' was prominent, and it is of interest to note the number of visitors who were under the impression that its colour should have been other than a rich yellow. Floribunda varieties which came in for a good deal of attention were: 'Korona,' one of the best bright reds; 'Orangeade,' which has held its colour remarkably well during a long hot, dry period; 'Hobby,' a very free flowering deep pink; 'Flamenco,' a strong growing orange red; 'Lumina,' another bright orange red, dwarf growing and good; 'Florence Mary Morse,' an old variety, but well worth growing. 'Fire Signal,' a dwarf growing brilliant orange red, promises to be one of our best roses.

Two large triangular beds massed in *Salvia* 'Blaze of Fire,' front the Rose Garden and have been a source of brilliant colour. Mixed bedding about the Begonia House has been most successful, too. Here, several groups of sunflower, rarely seen in Wellington private gardens today, have been most prominent.

A constant flow of visitors has passed through the Begonia House where the displays have varied with the seasons. Begonias, of course, now dominate in their colourful variety. *Lilium auratum* hybrids planted in 10-inch pots have been boldly grouped, providing a most attractive show. Centre islands, six in all, have been planted semi-permanently with subjects of interest. These plants are not always individually spectacular, but when grouped together provide an attractive contrast. From time to time plants of special merit or interest are displayed as they reach their most attractive stage of growth. For example, excellent specimens of *Hoya carnosa*, the wax flower, were prominently displayed, and many visitors came specially to see them and ask about their culture.

Spring and summer have been variable seasons and frequently frustrating. Gales and intermittent rain in the spring gave way to long periods of dry weather, producing drought conditions which were broken only by two torrential downpours. For the first time in many years, established mature trees have shown signs of being affected by the drought; nevertheless, summer bedding has done remarkably well.

*Begonia* 'Heterosis Organdy' F. 1 hybrids, an interesting type of varied flower and foliage colours, and new to the Gardens this year, has done well, as have a number of other varieties of fibrous rooted begonias which are particularly well suited to Wellington. *Mimulus* was very brief in its flowering period, but salvias, 'Blaze of Fire' and *farinacea*, have provided solid colour, and marigolds in variety have been most successful. Hybrid dwarf dahlias have produced their usual

good display, but the main display of dahlias in variety has been slow to come away. No doubt this is because of the hot dry period, but they are looking well and show good promise.

In the Camellia Garden extensive plantings of Dr. Yeates's *Lilium auratum* hybrids have done remarkably well. Not only do they make a most attractive show, but they also scent a wide area of the Gardens.

The pohutukawas have, this year, provided outstanding colour for almost two months, an unusually long period for pohutukawas in Wellington, but this, no doubt, was due to the absence of wind over that period. Now, the scarlet gum, *Eucalyptus ficifolia*, is commencing to provide a wealth of colour, and the Coral trees, *Erythrina crista-galli*, are, as always, most colourful.

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## DISTRICT COUNCIL REPORTS WHANGAREI

### ANNUAL GENERAL MEETING.

This meeting was held in the I.O.O.F. Hall, Norfolk Street, and was well attended. The Annual Report was presented by the Chairman, Mr. Cates, and showed a very healthy state of affairs, both with regard to the District Council's activities, and its financial status.

Mr. J. Fyfe, F.R.I.H. (N.Z.), our Treasurer, gave a detailed account of our income and expenditure, showing a very satisfactory profit for the year. After the adoption of the reports discussion was invited and a number of useful suggestions were offered for consideration by the new committee, which was then elected.

Officers: Patron, Mr. F. Holman, F.R.I.H. (N.Z.); Chairman, Mr. C. Cates, Puriri Park Road, Maunu, Ph. 7471; Vice-Chairman, Mr. G. E. Marshall, 50 Fourth Ave., Ph. 7445; Hon. Secretary, Mr. W. Christiansen, 3 School Lane; Hon. Treasurer, Mr. J. Fyfe, F.R.I.H. (N.Z.), Whau Valley; Hon. Auditor, Mr. D. G. Sofio; Committee, Mesdames M. Martin, F.R.I.H. (N.Z.), J. McKinnel, F.R.I.H. (N.Z.), K. Reynolds, F.R.I.H. (N.Z.) and M. Sanson, Messrs. Arcus, F.R.I.H. (N.Z.), R. McKenzie, L. Philpott, J. P. Hayden and A. D. McLaren, F.R.I.H. (N.Z.).

### POINTS FROM THE REPORTS.

*Fellowships:* During the year the District Council presented Certificates of Fellowship to Mrs. J. McKinnel and Mr. George Webster. At a future date a Certificate of Fellowship would also be presented to Miss M. Maddren.

*Magazine:* This had now entered its second year, and having proved most successful, it was hoped to enlarge it.

*Lectures and Demonstrations:* These had been given on a variety of subjects by outside speakers as well as by local speakers. Now that finances are in a sound condition, it is hoped to get more outside speakers.

*Membership:* We need more members. The advantages of membership of a national body are many. All are entitled to attend the Annual Conference to be held in Palmerston North on February 14th next, all received the quarterly journal of the R.N.Z.I.H. — *Plants and Gardens*, and every member of the Whangarei District Council received free the monthly magazine *Gardening in Northland*.

*Display Table:* This was a major attraction at meetings, and a source of interest and information to members. Rare and unusual plants were displayed and named, and advice on cultivation given.

*Trading Table:* The conveners, Mesdames Newman, Holster and Reinhardt, were especially thanked for their work, and members were reminded to keep the table supplied with saleable items.

*Question Session:* Miss Pitney, who has made such a success of presenting the questions at monthly meetings, was unanimously elected to continue the good work.

*Dominion Council:* Mr. Cates attended a recent meeting of the Dominion Council, and reported that our activities brought favourable comment from other District Councils in larger centres. The Dominion Council is engaged on two important undertakings — the preparatory work towards setting up a Chair of Horticulture in the University of New Zealand, and the establishment of a new award, to be known as the Award of Garden Excellence, for outstanding garden plants grown in New Zealand.

*Delegates to Dominion Conference:* Mesdames Martin, Reynolds and Sanson were appointed. Mr. Cates, in his capacity as Dominion Councillor, would also attend. It has been ascertained that several other members will attend as observers, so that Whangarei will be again well represented.

'Cacti and Succulents' was the subject of a talk given by Mr. R. Metcalf President of the Cactus and Succulent Society of Whangarei, at the October meeting of the District Council. Mr. Metcalf opened his address by saying that the growing of cactus was not an expensive hobby, nor one that involved a great deal of labour. The chief essentials were dry conditions and good drainage. Very little watering was needed. They could be forgotten in winter, but from August on water could be given once a week. Some kinds could be successfully grown outside in desert conditions, with gritty soil and perfect drainage. A tray of plants grown in vermiculite was shown. Vermiculite was also a good medium for growing seeds, watering them with Ata-grow. Indoors their chief trouble was mealy-bug. A piece of cotton wool on a match, dipped in methylated spirit and applied to this pest, was a quick cure.

Plastic pots had been proved superior to clay. The soil mixture used was leaf mould plus ground up bricks. Pure scoria was good but volcanic soil useless. Leaf mould, river sand and vermiculite was also a good mix. The white-spined and hairy species liked a little lime. If spines lodged in the hands, scrub with soapy water and a hard brush.

Some beautiful colour pictures of cacti and succulents growing in Arizona, as well as in New Zealand collections were shown, and aroused the interest of members, so that we may expect to see new collections being made.

Mr. Metcalf was accorded a hearty vote of thanks for his address.

*Question Session:* White Oil — Red Oil: When should one use them for scale? White oil may be used in summer, Red Oil in winter, but Red Oil should never be used on young growth as it tends to burn. There is now a multi-purpose oil which is safer, and can be obtained from seedsmen.

*Display Table:* Notable plants on display were several native orchids, species of *Thelymitra* in pink and white, collected on a small islet in Whangarei Harbour. *Agathis robusta*, the Queensland Kauri, excited attention. A double white English *Clematis*, 'Duchess of Edinburgh,' grown by Mr. Webster, and the rather rare *Wigandia*, a tall shrub from Tropical America with immense heads of blue flowers, was shown by Mrs. Martin.

## TAUPO

On 29th August, 1961, five members of the Royal N.Z. Institute of Horticulture together with seventeen interested people met at Taupo to discuss the formation of a District Council of the Royal N.Z. Institute of Horticulture.

It was decided at this meeting to call a public meeting with the view of forming a District Council. A steering committee was elected under the Chairmanship of Mr. J. Bennett to make the necessary arrangements.

The public meeting was called on the 11th September. Mr. Bennett opened the meeting and read the aims of the Institute, after which a motion was put forward and carried that a District Council of the Royal N.Z. Institute of Horticulture be founded.

Officers were elected and the elected Chairman, Mr. K. E. McKinnon, then took the chair.

Two lectures were given, one by Mr. B. L. Nicholls on 'Hazardous Plants in Horticulture,' and the other by Mr. E. S. West on the *Myrtaceae* Family.

At the close of the meeting, forty-two applications for membership were received, giving the District Council an initial membership of forty-seven.

At an executive meeting held on the 25th September, Miss McKelvie was elected to represent Taupo at the next Dominion Conference.

A general meeting was held on the 16th October at which Mr. West and Mr. Nicholls gave lectures on the identification of the genera of *Hebe*, *Coprosma* and *Pittosporum*.

Mr. Taylor of the Department of Agriculture gave a lecture on Taupo soil types, their potentials and deficiencies. He then went on to recommend ways of building up the soil.

A field day was held on the 18th November at the newly gazetted Opepe Reserve. The day was arranged by Mr. J. Cummings, a member of the executive, who was prime mover in having this valuable stand of native bush set aside as reserve. Thirty-seven people turned out to a very enjoyable and instructive afternoon. A side-light of the outing was a short talk by Mr. Hugh Ross on the history of the Opepe Settlement and the activities of the Armed Constabulary in the area.

On the 24th November, membership of the District Council stood at fifty-two with three prospective members.

#### FIELD DAY AT OPEPE.

On Saturday, 18th November, a very successful Field Day, of a botanical and historical nature, was held at Opepe by members and friends of the newly-formed Taupo branch of the Royal N.Z. Institute of Horticulture. Nearly forty people attended and the main party, under the guidance of Mr. C. J. Cumming, assisted by Mr. L. Nicholls, and the energetic Hon. Secretary, Mr. Peter Crawley, explored part of the new Bush Reserve and admired the splendid specimens of rimu, matai, totara and kahikatea trees, also a wide variety of other trees, shrubs and ferns.

One particularly fine totara was found to have a circumference of approximately 30ft., while within a radius of a few yards of another large totara were found more than twenty species of native flora, concerning which Mr. L. Nicholls gave an instructive talk to those assembled. Numerous tuis, bellbirds and other New Zealand birds added greatly to the pleasure of the walk.

Under the able direction of Mr. E. S. West, the smaller party visited an area north of the graves reserves and enjoyed a botanical discussion on the plants found.

The new road now under construction will skirt the S.W. boundary of the Bush Reserve and it was noticed that care is being taken by the contractors to avoid unnecessary damage to the trees.

Members remarked on the scenic attraction of the surroundings and it is hoped that when the new highway is completed, a most pleasing avenue will result. The two parties met for afternoon tea, during which all present were privileged to listen to our local historian, Mr. W. Hugh Ross, who told the interesting story of the Opepe area and outlined the events of June, 1869, when Te Kooti's warriors surprised a detachment of European troops, with tragic results. At the conclusion, the President, Mr. K. E. McKinnon, thanked Mr. Ross for his address, and congratulated the organisers of the Field Day on the successful outing, which was enjoyed by all present.

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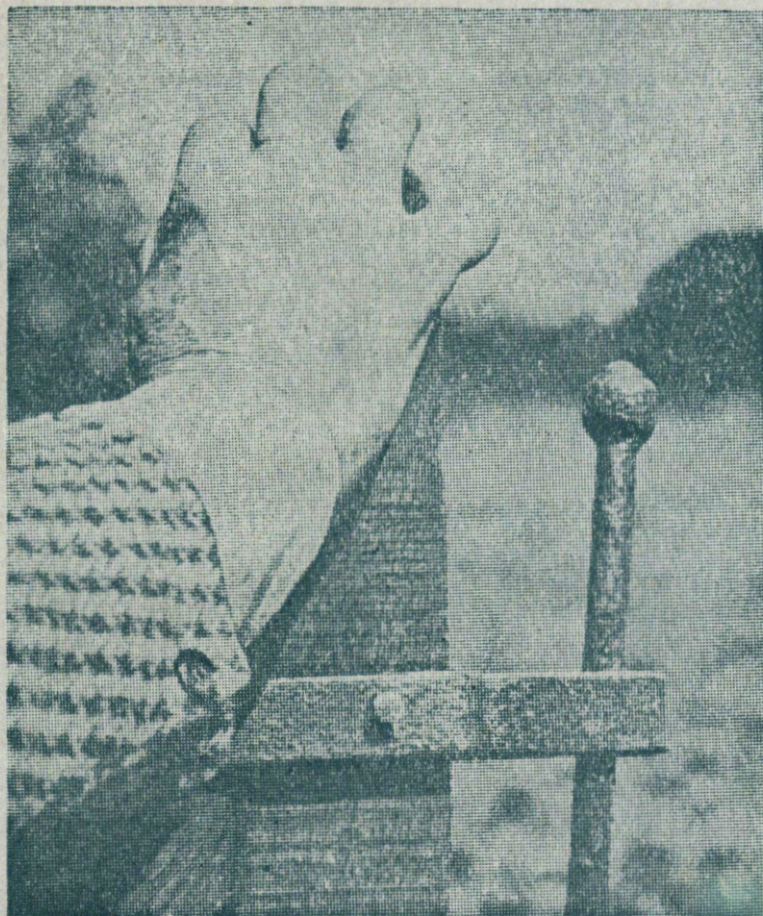


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