

Vol. 9. No. 1.

June, 1939.

**Journal
of the
Royal New Zealand
Institute
of
Horticulture**



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EXAMINATIONS

Examinations for the following are conducted by the Institute:—

1. Junior Certificate in Horticulture.
2. Intermediate Certificate in Horticulture.
3. Diploma in Horticulture.
4. Seedsman's National Certificate.
5. National Certificate in Florists' Art.

Examination Papers

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

Address all correspondence to:

Dominion Secretary,

Royal N.Z. Institute of Horticulture,

Box 1237,

Wellington.

Journal of the Royal New Zealand Institute of Horticulture

Vol. 9. No. 1.

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GRANT OF PREFIX "ROYAL" TO INSTITUTE.

Advice of His Majesty's gracious approval of the granting to the Institute of permission to make use of the prefix "Royal" in its title, was received when our last issue was in the press. It will be seen, from the appended copies of correspondence, that the Institute has to thank its esteemed President for his worthy presentation of the Institute's petition.

NEW ZEALAND INSTITUTE OF HORTICULTURE.

Box 1237, Wellington,
15th December, 1938.

His Excellency the Governor-General,
Government House,
Auckland.

Your Excellency,

For more than a decade past, the New Zealand Institute of Horticulture has been desirous of obtaining permission to include the word Royal in its name, but has abstained from preferring any request in that direction until it felt that there could be no doubt whatever of its ability to fulfil what were understood to be the conditions necessarily precedent to the presentation of a petition for the granting of that privilege.

Now, however, the Institute is confident that the information given hereinafter will show that it has attained a position of considerable eminence amongst the semi-public institutions of this country, and of pre-eminence amongst its fellow horticultural bodies; that it is, relatively to the length of the period since the proclamation of New Zealand as a British colony, of quite respectably long standing; that its finances, though on a modest scale befitting the nature of its activities, are sound and secure; and that its objects are entirely national in scope, and are, moreover, partly of a scientific nature.

The Institute is incorporated under "The Incorporated Societies Act, 1908," of this Dominion, and a copy of the constitution and rules registered under that Act are enclosed herewith. These will show that the Institute's objects include the science and art of horticulture in all its aspects, and that no person or body can benefit individually or directly by its operations.

There are several other national horticultural bodies in the Dominion, including the Horticultural Trades' Association, the

Fruitgrowers' Association, the Seedsmen's Association, the Florists' Associations, the National Daffodil Society, and the National Dahlia Society; but these represent specialized interests and, in common with many of the local horticultural societies and some of the municipal councils (in respect of their public garden departments), are either affiliated to the Institute or work in definite co-operation with it, and without exception recognise it as the leading horticultural foundation in the Dominion; indeed such of these bodies as are national in scope are all directly or indirectly represented on the Dominion Executive of the Institute, and take an active part in its annual conferences.

The Royal Horticultural Society (London) is gracious enough to regard the Institute as occupying, in New Zealand, a position somewhat akin to that filled by itself in the Old Country, and the Society gives the Institute valuable support by requiring other horticultural bodies in the Dominion, when communicating with the Society upon matters of policy, to do so through the Institute.

The National Horticultural Week held each year in one or other of our principal towns is conducted under the joint auspices of the Institute, the Horticultural Trades' Association, the Association of Directors of (municipal) Parks and Reserves, and the local Horticultural Society concerned, and the finances of the National Horticultural Show, forming a portion of the programme of that week, are partly guaranteed by the Institute. At all the general functions included in the week's activities, the President of the Institute is expected as a matter of course to speak and act as the representative of New Zealand horticulture as a whole.

The Institute is authorised by "The New Zealand Institute of Horticulture Act, 1927," of this Dominion, to conduct examinations, and to issue certificates and diplomas, in respect of all horticultural subjects. In pursuance of this authority it issues junior certificates, intermediate certificates, and diplomas in general horticulture; certificates for seedsmen; and certificates for florists. A number of diplomas and certificates have already been awarded, and considerable groups of students are at present working to also obtain such evidence of qualification.

The Institute was founded in the year 1923, and is, therefore, now in its sixteenth year. During the whole of this period, it has been steadily increasing its activities and the benefits it confers upon New Zealand horticulture as a whole.

As regards the financial position of the Institute, a copy of each of the last two annual balance-sheets is attached. The corresponding document for the year recently closed has not yet been completed, but it will show an equally satisfactory position. Although the Institute has made no endeavour to accumulate funds, it will be seen that its revenue has been more than sufficient to meet its expenditure, and that the Government, through its Department of Agriculture, recognises the public nature of the Institute's work by granting a small annual subvention in aid of its funds. It is felt that this "token" recognition warrants the belief that, should further help of this kind be needed, it would readily be granted.

The foregoing has, I trust, demonstrated that the objects to which the Institute is devoted are thoroughly national in character

and scope. I shall therefore not trouble you with further remarks in that connection.

It seems, however, desirable to mention that some of the Institute's activities are definitely along the lines of encouraging scientific work bearing upon horticulture, whether such work is being done in governmental departments, at university colleges, by scientific foundations such as the Cawthron Institute, or by private scientists. In this connection it may be pointed out that the Institute's first president was the late Dr. L. Cockayne, C.M.G., F.R.S., etc., the most eminent of the Dominion's botanists; that the Institute's Executive Council includes Professor H. B. Kirk (who occupies the Chair of Biology at Victoria University College, Wellington), Dr. Oliver (Director of the Dominion Museum) and Dr. Allan (Director of the Botany Division of the Plant Research Bureau); and that the present president is a member of the Fruit Research Committee of the Department of Scientific and Industrial Research.

In view of all the foregoing considerations, the Executive Council of the Institute has authorised me to request Your Excellency to approach His Gracious Majesty the King with the humble prayer that the Institute be given the esteemed privilege of prefixing the word Royal to its designation, so that it may in future be known as the Royal New Zealand Institute of Horticulture.

The Institute further desires that this opportunity be availed of to convey to His Majesty the assurance of its continued loyalty to His Throne and Person.

Respectfully submitted,

—(Sgd.) F. S. Pope,
President.

Government House,
Auckland,
13th, January, 1939.

Dear Sir,

I am directed by the Governor-General to acknowledge the receipt of your letter of the 15th December last in which application is made for permission to use the prefix "Royal" in the title of the New Zealand Institute of Horticulture (Inc.), Wellington, and to inform you that the application has been forwarded to the Private Secretary to the King for signification of His Majesty's pleasure.

As soon as a reply is received, a further communication will be sent you.

Yours faithfully,

—(Sgd.) D. E. Fouhy,
Official Secretary.

The President,

The New Zealand Institute of Horticulture (Inc.),
Wellington.

Government House,
Auckland,
8th March, 1939.

Dear Sir,

With reference to your letter of the 15th December last, and to mine of the 13th January: I am now desired by the Governor-General to inform you that His Excellency has just received advice from the Private Secretary to the King to the effect that His Majesty has been graciously pleased to approve of the granting to the New Zealand Institute of Horticulture (Inc.), of permission to make use of the prefix "Royal" in its title.

Yours faithfully,
—(Sgd.) D. E. Fouhy,
Official Secretary.

The President,
The New Zealand Institute of Horticulture (Inc.),
Wellington.

ROYAL NEW ZEALAND INSTITUTE OF HORTICULTURE.

Box 1237, Wellington,
31st March, 1939.

The Official Secretary,
To his Excellency the Governor-General,
Government House,
Wellington.

Dear Sir,

I have to acknowledge the receipt of your letter of the 8th instant advising that His Excellency has received advice that His Majesty has been graciously pleased to approve the granting to this Institute of permission to make use of the prefix "Royal" in its title.

I have to advise that your letter was submitted to the recent monthly meeting of the Institute's Dominion Council when I was directed to respectfully request that his Excellency should convey the Institute's thanks to his Majesty with the assurance of its continued loyalty.

Yours faithfully,
—(Sgd.) G. S. Nicoll,
Dominion Secretary.

NATIVE TREES.

(By Mrs. Douglas Blair).

The writing of an article on its native trees turns the thoughts to one of the noblest and loveliest heritages of New Zealand.

The Maori, living in intimacy with the forest, had his mind full of its magic and mystery. The ancient trees afforded shelter and gave him a home. Here was a refuge and defence from his foes. Birds, which were part of his food, shared the forest.

The Maoris referred to trees as ancestors. We have our family trees; they had their whakapapas—all going back, as it were, to the root of a tree.

There is something patriarchal in gigantic trees, draped with ancient grey-green moss, standing in the forest silence.

The kauri is recognised as perhaps the noblest and most useful of our native trees. To say that a house is built of kauri, gives it its hallmark. Kauri and totara were used for the waka of the Maori. Kauri gives the best results, of the soft woods, to the builder, carpenter and cabinet-maker. Being straight and tall, masts are made from it also.

It is durable, straight-grained, stains and polishes well, and is a perfect specimen of sound timber. It grows to a height of 120 to 150, and sometimes 200 feet, and it favours the Auckland district.

Kauri giants are estimated at 800 to 1000 years old. Bush gum is obtained from the trees, and fossil gum, by digging, usually in land of scant manuka growth.

The gum is obtained from the old trees. It resembles amber and the best varnishes are made from it in Great Britain and America. The burnt resin of the kauri pine, with added soot, gave the very dark colour, for tattooing.

The kahikomako, about 30 feet high, was famous and important, as the Maoris used this for frictional fire before the coming of the pakeha, with his flints and steel.

The kahikatea, or white pine, matai, hinau and miro, were the trees that the Kereru, or pigeon, loved.

Matai, or black pine, is one of our fuel woods and useful also as a dye, giving a good orange colour to flax thread, etc., and, with ashes added, turns to a brown. Miro is abundant on the waterless parts of the inland ranges and its berries are red when ripe.

Then there is the handsome karaka, with its yellow fruit and its kernel. Baked in the hangī (oven), and steeped in water to draw out the bitter poison, it was then stored as food for the fighters.

There is also the tawa which was baked, soaked and dried for food.

Even the lacy punga (tree fern or mamaku) was more than shade and beauty in the past. Its pith was cooked in the hangī and eaten.

The great totaras of ages past were felled and hollowed by laborious hand work, and were made into canoes, to be adorned later with carving. These forest giants, selected where undergrowth was scant, were ring-barked and later, when dead and dry, a favourable wind would fell them. One can quite understand, when a

fine chief has died, the Maori saying, "A totara has fallen!"

Then there is the striking ti or cabbage-tree, whose delicate, white centre was baked and eaten, and the beautiful nikau palm also had its tender leaves used. In the bulge below the leaves, Maori and pakeha alike have tasted and enjoyed.

There is the manuka, some call it scrub, with its white, crimson-centred flowers, but there is a tall tree species, small flowered and sweetly scented, called kahikatoa or manuka tree. I saw a very fine one at Puha.

The cabbage trees that grow on our East Coast are splendid specimens, and some at Puha are magnificent. As one goes further north, however, they dwindle in size, until, near Auckland, some appear like up-ended brooms.

The koromiko was used in medicine, and the kawakawa, a species of pepper tree, made a splendid dressing for wounds. The leaves of the tarata, made into a paste, cured raw places on the backs of horses. The Maori sugar-tree, the ti or whanaka of the Maori, is called by the pakeha, cabbage-tree or palm-lily. The tall trunks, with sword-like leaves, ever tossing, are fascinating.

In the south, it was called kauru, and in November, in ancient times, the Maoris were busy with sweets-tree.

Young trees, 4 to 6 feet in height, were taken for sugar extraction. These ti-kaukas were cut close to the roots and sometimes the large roots were also taken. They were cut into lengths, the bark removed, and the pith was sun-dried and cooked. The drying took weeks, and the cooking a night.

No wonder the Maori had an ancient god for his forests—Tane Mahuta—the birds of the forest were included.

Here are just a few of the names of native trees:—Puriri, rimu or red pine, kotukutuku, the native fuchsia and its fruit, called konini, rata and pohutukawa, both crimson beauties at Christmas, kowhai, whose gold-brown bells blossom in the spring, titoki, with its wonderful red and black berries, ngaio, mokimoki, kahikatea or white pine, mostly in swampy ground and associated in our minds with borer. Huge kowhais have been seen destroyed with it also; matai, stately black pine, with shiny grey bark and spreading crown, beech, houhere (thousand jackets or whauwhi), mahoe, maire, toromiro, akeake, papauma, makomako or wine-berry, whitey-wood—home of the weta, tanekaha, tawari, kawaka, toatoa, kohokohe, taraire, pukatea, matipou, mahoe, horoeka thick-leaved lance-wood, rangiora, maupariki, hinahina, tutu, toru, whau, tangeao, houi, puka, pakaka, resembles hinau, hutu, towai, karo, ramarama, karamu, tawhiwhi, raukawa, naupata, rohutu, wharangi, pahautea, akiraho, manaao, manawa, porokaiwhiria, kumarahou, patete (five fingers)—the love leaf—rauaroa) and many beeches, ngutukawas and veronicas, etc.

One thing that should be remembered to-day, is that taupata and ngaio are fire resisters and would make splendid plantings for the edge of forest reserves. These trees and many other natives, bear fruit for our birds, and the writer has two taupatas, two karakas and other trees, grown from seed dropped by the birds. There are, of course, many other trees which have not been mentioned.

The question has been asked, "Are there not deciduous trees in New Zealand?" The writer does not know of any. Our forest trees are evergreen, although one kind of kowhai that sheds its foliage is in our garden.

The uncurled fronds of the mamaku served as designs for carving.

Then there is the kiekie—pakehas used to call it "giegie."

The edible bracts are called tawhiri and the fruit, ureure. Not many people have seen the flower, for it hides in the dense bunches of leaves in the bush trees. These leaves, an inch broad, are twenty inches long, and from these tough fibres, the Maoris made the hats that early settlers loved. Father always wore a hat made of it in summer.

The kiekie climbs, curling its way spirally up the tree trunks in the forest, showing the patch of dark-green, glossy leaves.

The flower spikes, somewhat similar to an arum lily, are of a brown orange colour. Most distinctive and aromatic are the white and blue fleshy bracts, which are delicious. The fruit does not ripen till May, our New Zealand winter. A strange time for fruit to ripen, yet we then have our oranges and persimmons.

There are strange and wonderful things in beautiful New Zealand, that it is hoped the coming generations of both races will be taught or shown. May they always have thought for the forest that has taken hundreds of years to rise in its present beauty.

There is an historic pohutukawa at Oteko, called Te-waka-o-rerekohu, in the school grounds. I saw a photo with all the school children assembled under it. Picture it at Christmas, covered in blood-red blossoms! Would it not be a crime to destroy such a tree?

Give a thought to the ancient green forests, still standing on the ranges; to Waikaremoana with ancient giants, wreathed with berry, trailer, orchid and mistletoe, and, below them, a fern carpet. A naturalist, visiting there in 1841-1842, found 1500 kinds of ferns!



Maitai Valley Road, Nelson.

—“Evening Post” Photo.

FLORAL DECORATIONS.

(By Mrs. E. L. King).

These notes are intended as a guide to those readers who take great interest in the arrangement of flowers, more especially in the home.

To use flowers or flowering branches, in a correct yet conventional way, is really a simple art yet one that gives a wide scope for thought, in the creation of colourful compositions composed of blooms and foliage used correctly, both culturally and seasonably.

By this is meant that one would not use such unrelated types as tender glasshouse flowers with hardy outside ones, such as Orchids and Marigolds; Cyclamen with Daisies; or Violets with Dahlias, however small the latter may be.

Flowering shrubs are better used separately, not mixed with blooms of annuals or herbaceous kinds. You will find that varieties such as Iceland Poppies, Gerberas or Scabious will mix best with those kinds of flowers, having the same sort of bare stems. This type of flower is best relieved with just a basal foliage or very thin grass.

Such flowers as Daffodils, Irises, Belladonnas, Gladioli, show to advantage when used with their own foliage. Every plant has some little characteristic habit and, if we try to reproduce this in a conventional manner, we should have a simple and natural arrangement. For instance, Nasturtiums would be put in a low bowl or vase and so arranged that the blooms would be overhanging and almost covering the receptacle. Their own foliage would be used among them. Violets and Primroses look natural in bunches, with the foliage arranged in a collarette form at the base.

An important item in flower arrangement is the choosing of the receptacle to hold the blooms one wishes to arrange. Select those that fit into the colour schemes. This is not always possible but a neutral grey or a dull sage-green will go with most colours. Your article when finished should be one piece, not a bowl AND flowers.

Flowers are usually from 1½ to 2½ times higher than the height of the bowl. If the flowers are light in weight, such as Sweet Peas or Carnations, a slender crystal vase would be suitable, while Dahlias, Delphiniums, and Gladioli would fit in better with pottery containers. Chrysanthemums are naturally associated with a background of autumn foliage. These are heavier subjects to arrange, so why not a bright brass or dull copper container? This would carry the suggestion that it was carrying the weight of the arrangement. These large compositions can be made most effective, but does someone say "so hard to arrange?" Not so difficult after you have picked out the bowl and inserted something to hold the blooms in place. This is really important.

Probably the best holder, for a large arrangement, consists of a layer of a small mesh of netting wire. The writer usually places a layer of this on the base of the bowl, then another layer about half way down in the bowl. Keep these two apart with a rigid wire or piece of coiled-up wire. Another method is to fill the bowl three parts with sharp sand. River-bed sand is preferable to ordinary beach sand. It will look a bit messy when the water is first added.

but the sand soon settles down and makes a good holder. The flowers keep quite well in this.

To balance this large arrangement, put in your tallest bloom first. The tip of this must be exactly perpendicular with the widest part of the container. The line may swing away, but must return to just under this highest point. Shape upward or outward in a flowing line so that the finished article has rhythm. Do not forget to put in some quite short-stemmed flowers near the line of the bowl top, so as to make the bowl appear to carry the weight of the arrangement. Do not have two flowers together at the same level or exactly one above the other. If using mixed coloured flowers, let your lighter tones predominate.

There is such a wonderful array of choice *Chrysanthemums* about just now that one should not lack material to do these large bowls. With the lovely yellow *Chrysanthemum* which, by the way, is called *Gaseoyne* and is very hardy, use the *Scarlet Oak* foliage or *Amelanchier sanguinea*. *Pyrus versicolor* I always try to procure as it keeps so long in water, is very brilliant and may be cut in nice slender pieces. The same varieties of foliage look well with *Jean Pattison*, a very good early bronze decorative *Chrysanthemum*, that is almost sure to flower before the harder frosts arrive in the colder districts.

For a pink bowl there is *Rayonette*, an improved earlier type of *Lilian Bird*, and the semi-double called *Dawn*; with these one could use a purple *Rhus*, *Berberis purpurea* or any of the dark foliaged flowering plums, but be sure to scald the stems of these as sometimes they will not readily absorb water. These lovely *chrysanthemum* arrangements look well when placed on a pedestal in a large room. If your room be rather small, try standing the bowl on the floor and it will not dwarf the size nor the height of the walls so much.

For a cold day, a bright vase of scarlet *Geraniums* or even one of bright berries will cheer everyone. *Holly* trees retain their berries well into the winter. *Cotoneaster rotundifolia* keeps its brilliant red berries until late into the spring, the skins evidently being too tough even for the poor old black-birds.

Have you ever tried the bright bracts of *Salvia Bonfire* with *Thalictrum* or *Aquilegia* foliage, after it has turned golden yellow?

A good holder for the smaller type of bowl is the round (nearly a ball) one of glass. These have small tubular holes at regular intervals for insertion of the blooms. Sometimes these move about the bowl, but a small piece of blotting paper under the holder will prevent this. The flowers, placed in the outer ring of this type of holder, will sometimes persist in slipping out. A tiny roll of paper round the stem will help, so will wedging it into place with a few discarded pieces of flower stem.

Apart from the joy of having one's own flowers to arrange in the home, there is the other and greater joy of being able to give to a friend or send to the sick. For these kindly acts, it is better to have a box to send the flowers in. We have many cardboard boxes bringing our trade goods home to us, so why not cover some of these with spare pieces of gay material or odd bits of wallpaper, ready for just such an emergency?

To fill a box, place in sufficient blooms to fill one end up first. Then do the other end, but it is now necessary to work the flower-

stems under the heads of the flowers at the opposite end. This will, of course, leave the centre bare. In this space, it is possible to place a few smaller kinds that may do for a float-bowl or flower-ring by the bedside, e.g., Pansies or Fuchsias. Add a bunch of Mignonette, Violets, or something fragrant to greet the recipient on opening your gift. Try to arrange these into an attractive colour scheme, for it is the thrill of the first look at a gift that remains longest in the memory.

Now for a few general hints:—

If the decoration be for a dinner, its purpose is to add interest to the meal and, therefore, it should not interfere with the vision of the guests nor with the service.

When selecting blooms, do not choose all of a uniform size nor all that have perfectly straight stems. A curved or slightly bended stem is often very helpful.

Do not mix rose pink shades with the salmon tones. You will find the warmer shades of pink, which are the salmon ones, will mix with orange or light yellows. Rose pink will blend with blue and also with mauve, all three having blue in their composition.

Lemon and blue mix quite well, providing they are in the same depth of colour tone.

Scarlet with light mauve is an attractive mixture as with Gerberas and *Thalictrum*, scarlet *Gladioli* and light mauve blue *Delphiniums*, or scarlet *Verbena* with its pale mauve sister.

A few flower containers, carefully selected with an eye to their suitability to the particular spots in your rooms, that need flowers, are of more practical value than three times as many, accumulated through haphazard choice or unconsidered gifts. Every one receives many such misfits—never buy one.

Any vase too conspicuous in colour, form, or decoration is not desirable as a container for flowers, as it tends to make them a secondary feature. Such a one is best left empty or used for a few sprays of green leaves.

Roses are better managed with the thorns on and should be put in water up to the seed capsules for at least one hour. This will stiffen the necks and they will remain fresh longer.

Any flower, which has a milky substance when cut, will keep quite well if the ends of the stems are dipped in boiling fat to seal the ends and prevent bleeding. *Campanulas* and the climbing *Mandevilla* belong to this class.

Maple foliage.—Always scald the ends of the stems and put under water for a few hours. It will then keep for days.

Maidenhair Fern.—Burn the ends of the stems and store in a place without draughts.

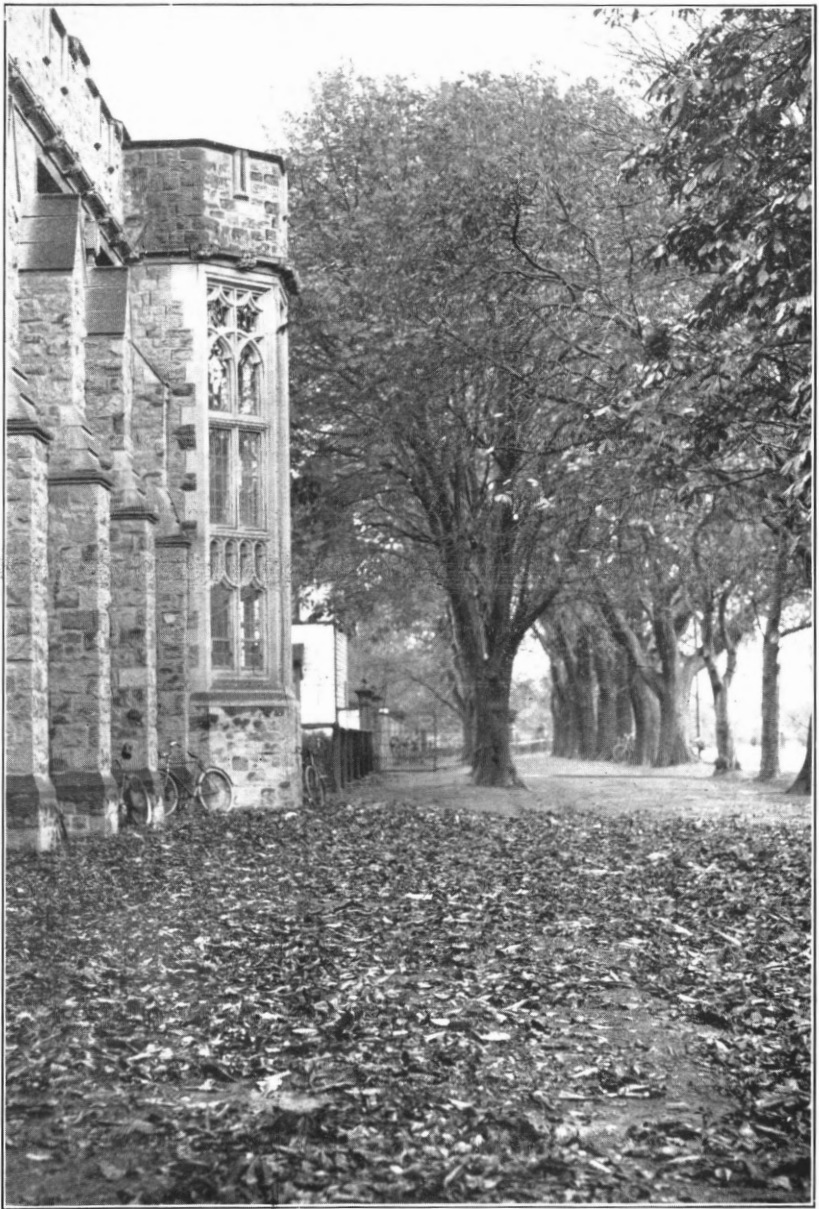
Wire may be used, but it should not be too noticeable.

Delphiniums and *Dahlias* require their stems to be scalded and put immediately into cold water.

Calendulas or Scotch *Marigolds* are best picked the evening before they are required, as the stems will then have straightened into a set position. The absorption of water seems to alter the form of these.

Violets, at this time of the year, will often revive if thrown into deep water.

Tulips are always freshened up by standing in deep water. This helps the stems to straighten up again.



Portion of Elm and Chestnut Avenue, Rolleston avenue, Christchurch.—Part of Christ's College Memorial Hall.—Photo by courtesy of Director, Botanic Gardens, Christchurch.

WELLINGTON BEAUTIFYING SOCIETY.

(By Captain S. Holm, President).

(Address to Wellington Rotary Club, 6th June, 1939).

Strangers to Wellington often ask what we have done with our trees and there is no doubt that, to a visitor, this city looks particularly hard.

You will remember, several years ago, what the entrance to Wellington was like to the view of a train traveller. He arrived at Thorndon or Lambton Station, which were little more than iron sheds, surrounded by ugly fences, plastered with advertisements. He then took a tram ride along Thorndon Quay, which is anything but beautiful and, with the exception of the trees at Courtenay Place, he saw no sign of any softening effect until he reached the suburbs.

Coming in from the sea the view was a little different, as the first impression was of magnificent hills, with the city nestling between them, but the visitor asked, or at any rate wondered, why those hills were not covered with trees.

The need for a tree-planting society was urgent and in 1935, after unsuccessfully trying to convince certain prominent citizens to form such a society, nine interested persons met in my office and it was decided to form a Beautifying Society. The Mayor called a public meeting in July, 1935, and 67 persons enrolled. The membership fees were arranged to be 5/- per annum and £3/3/- for a Life Membership. The objects of the Society were as follows:—

“The encouragement of civic pride and general ownership in Wellington and environs.

“To preserve beauty spots in and around the City.

“To promote schemes for the better laying out and development of vacant areas of land.

“The further improvement of public parks, gardens, beaches, playgrounds, open spaces, and streets.

“The removal or improvement of buildings or structures which disfigure the landscape.

“To suggest to the various local bodies and Government Departments, improvements which may be carried out either by these bodies themselves, or, with their sanction, by the Society.

“To co-operate with all kindred Societies.”

Apparently these objects were satisfactory, as they have been unaltered, and are wide enough to give us scope for all the work we wish to do. It will be seen that the first object is to awaken civic pride: in that respect the Beautifying Society is doing good work.

During the four years of the society's existence, 29,000 trees have been planted in and around Wellington. We estimate that 25 per cent. of these have failed to grow and that, therefore, 7000 to 8000 have been replacements. But we maintain that, even if 20,000 trees are now growing as the outcome of the society's four years' work, the effort has been well worth while.

In addition to the plantings, we have given away 8000 trees to

kindred societies, three of which are in the South Island, but most in the Wellington district. Our object in doing this was to assist in awakening a "tree sense" in this country.

Trees used to cost us from 1/- to 3/6d., so it will readily be seen that our revenue was insufficient. We tried to increase it by running an Art Union and Mr. Coleridge kindly arranged to give us lectures. However, the revenue from these sources was not big and we have had to rely on subscriptions and donations. The amount received, during the four years, has been over £800 in cash. We have also received many donations of trees, seeds, and one particularly welcome donation of 4000 flower pots.

The Department of Internal Affairs has been most helpful and no one could be more interested in our work than the Hon. Mr. W. E. Parry, Minister in Charge of that Department. We have been provided with unemployed labour, on the same basis as the local bodies were able to obtain labour, which means our planting has been done cheaply. The Justice Department has given us valuable aid; it made available to our society the use of land for a nursery at Mt. Crawford and provided labour to cultivate it. Last year from our nursery we obtained 17,000 seedlings. This year we should obtain 5000, but, in future, we expect to have available 20,000 seedlings per annum.

In connection with the nursery, it must be stated that valuable assistance has been given by Mr. B. L. Dallard, of the Justice Department, and Mr. R. L. MacAlister; in fact, these two gentlemen between them are responsible for the inauguration of our nursery.

Mr. Sundgren, of "Ferndale" Tea Gardens, Karori, has been a great help. He laid out the improvements to the Wellington Hospital entrance at his own expense and he also has made a donation to the Beautifying Society of half the income derived from admission charged to his gardens.

Our plantings have been in the following localities:—

Hutt Road, Evans Bay Road, Massey Road, Ohiro Bay Road, Brooklyn hills, Island Bay Esplanade, Kelburn, Wadestown, Johnsonville, Kaiwarra Park, Mt. Victoria, Tinakori Hills, Ruahine Street, Palliser Road, the eastern banks of the grounds of the National Art Gallery, Post Office Square, the entrance to Wellington Hospital, Wellington Terrace, and the Plimmerton-Paekakariki Road. The society is now raising funds for the purchase of Johnston's Hill, Karori, which it soon hopes to add to the scenic reserves of Wellington.

For the most part we are planting native trees. This is being done for the reason that, wherever the native bush has been destroyed, the native birds have died out, and we wish to encourage the existence of our native birds by planting as many berry-bearing trees as we can.

The society is not working alone. The City Council Reserves Department, under Mr. J. G. MacKenzie, is doing good work quietly and unobtrusively; the Harbour Board has shown what it can do in the beautiful little rest park it has made out of an untidy bit of waste land at the boat harbour. The City Engineer's Department, under Mr. K. E. Luke, has also done much to improve Oriental Bay and the outer aspect of the Corporation yards.

The Public Works Department is assisting in the beautification also. Planting is being done in the Ngahauranga Gorge and the new Social Security Building has been given an attractive setting; everyone will admit that the lawn around this building, improves it much more than hard concrete would have done.

The Railway Department is also busy with its plantings. They are planting the hill face at Thorndon, planting the Railway ramp; and planting hoardings all along the Hutt Road which spoil a lot of the good work which is being done. We believe in regimentation of hoardings, not spreading them along scenic highways.

What is the use of talking about Wellington's wonderful scenic drives along the harbour front when the view is shut out by rows of hoardings? On that subject I have the following article from an American newspaper:—

“Instead of marring the landscape with signboards would it not be a good advertising proposition for some long headed and altruistic business man to cover sections of barren public highway or hillside with trees and shrubs and maintain the planting? A modest sign would give him credit. Instead of bill-posters he would employ gardeners, instead of ugliness he would create beauty.”

Rotary Clubs are interested in tree planting. The Timaru Club set up a Committee under Rotarians Washbourne and Anderson. They collected £160 and planted 200 trees. Dr. Eric Stubbs of the Oamaru Club, started the North Otago Tree Planters' Association which planted 700 trees in their first season. A number of Wellington members are very helpful to the Beautifying Society and we are indebted to them for their donations, advice, and assistance. However, the Wellington Rotary Club has not officially adopted tree planting.

I have a letter from Rotarian Alberto Oitaven, of La Plata, Argentine; in La Plata a garden of international peace has been planted, where all nations send their emblematical trees and flowers. This scheme has been a great success and Rotarian Oitaven has asked for our collaboration in this project. Liverpool has also started a similar garden. May I commend the idea to the Wellington Rotary Club to start a Garden of Peace in Wellington? The land can be had and, on behalf of the Beautifying Society, I can offer this Club small kowhai and pohutakawa trees, to exchange with other Clubs in return for their emblematical trees.

I might mention that Maurice Duperry, the immediate Past President of Rotary International, has suggested the co-operation of Rotarians in all countries in establishing Gardens of Peace. The establishment of these gardens will, I think, conform to the fourth object of Rotary and I trust the Wellington Club will adopt the suggestion.

Planting trees is worth-while work. They are the most permanent memorial that any person or Association can have. The oldest thing in the world is a tree in Mexico, 10,000 years of age. It is much older than the Pyramids, which are the oldest standing edifices erected by man.

In New Zealand, we have many old trees. A kauri tree in Mercury Bay is at least 3500 years old, some say 5000 years. Any-

how, it was growing when Moses took his trip down the Nile in his cradle! It seems a long time ago to us when Julius Caesar invaded Great Britain; there are numerous matai, maire, and totara trees, that are over 2000 years of age and were growing in New Zealand before Julius Caesar thought about invading the British Isles!

It is worth while to note that a wealthy South African, visiting New Zealand a couple of years ago, took home with him some seeds of our New Zealand trees and some young plants, with which to start a plantation on his homestead in South Africa. He stated he would like to have a memorial to himself 1000 years hence and the only permanent memorial he knew of was brought about by tree planting.

Would it not be a good thing for this Club to plant a memorial to itself and to have any notable Rotarians, that visit New Zealand, plant trees which will grow in memory of them?

NATIONAL HORTICULTURAL WEEK, 1940.

The Joint Committee has agreed that Wellington shall be the venue of National Horticultural Week, 1940. This will commence on Tuesday, 30th January, 1940, with the following programme:—

Tuesday afternoon:—Official opening of National Conferences and National Flower Show.

Wednesday, all day and evening:—Annual Conference of the New Zealand Horticultural Trades Association; Continuation of National Flower Show; Annual Conference of the Association of Directors of Parks and Reserves, all day.

Thursday, morning and afternoon:—Annual Conference of the Royal New Zealand Institute of Horticulture; Evening, Banks Lecture.

Friday, morning:—Annual Conference of New Zealand Professional Floral Artists.

The Wellington Horticultural Society has been invited to run the National Flower Show, 1940, jointly with the Hutt Valley Horticultural Society.

FRAGRANT GLADIOLUS.

The following is an extract from the New York Times of the 16th March last:—

“The development of a definitely sweet-smelling gladiolus, praised as “one of the outstanding achievements of horticulture of the past decade,” was announced recently at the twenty-sixth annual International Flower Show at the Grand Central Palace. Several species of the scented flower were shown in the garden centre sponsored by the Garden Club of America and attracted eager interest among many of the nearly 40,000 persons who attended the Show.

The scented gladiolus was developed at the Boyce Thompson Institute under the supervision of Dr. Forman T. McLean, plant physiologist at the Institute and former president of the Metropolitan Gladiolus Society of New York. The research has now reached the stage, Dr. McLean explained, where gladioluses may be obtained in four scents. He said there was “every promise” that a greater number of scents, combined with every known hue of these widely popular flowers, may be had within another year or two.

The odours of freesia, the lemon, the night flowering jasmine and the carnation have already been imparted to various specimens. Already, there are greenhouse varieties of the scented gladiolus in such popular colours as deep purple, blood red, soft blue and creamy white with yellow throat.

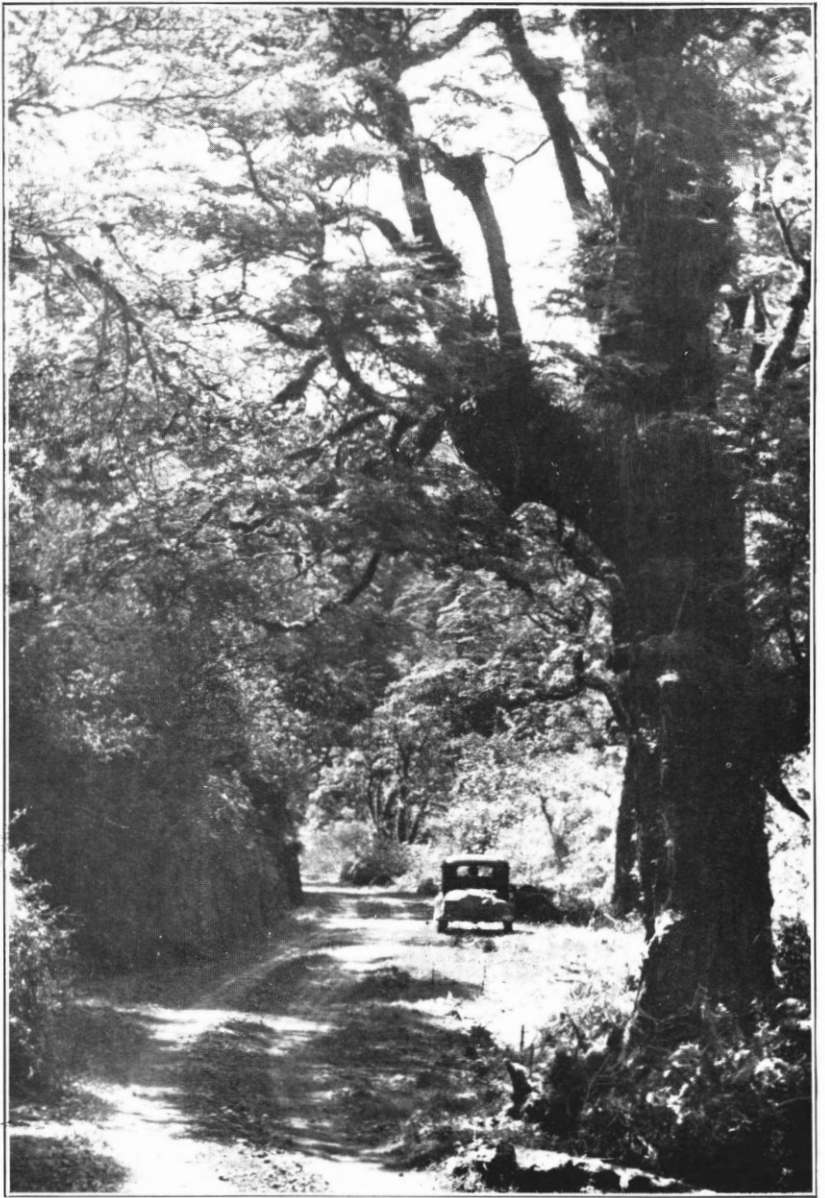
Perhaps two years of further research may be needed before the present varieties may be marketed for outdoor plantings. Dr. McLean, who was formerly with the New York Botanical Garden, said that a group of experts will test the new bulbs in every part of the country to determine the suitability of the various varieties in various soils and climates.

The fragrant gladiolus was developed by cross breeding of the common, unscented gladiolus with the sweet-smelling sweetglads, a delicate dwarf plant unsuitable for garden planting. The product of this research was a strong flower about three feet in height which maintained the strong scent of the sweetglad while taking on, at the same time, the robust height and durability of the taller flower.”

Dr. Forman T. McLean, the raiser, has written to Mrs. Knox Gilmer, Wellington, under date 26th March, 1939:—

“The Boyce Thompson Institute staged a demonstration of its research work along horticultural lines, in the model Garden Centre sponsored by the Garden Club of America. I was so fortunate as to have the single flowering-size specimen of my first real garden-type gladiolus with perfume timed perfectly, with the first two blooms full bloom on the opening day. Having been retarded COLD since it began showing spike on February 13th, it persisted through the week well as a pot plant.

The first of my fragrant gladioli to go out for trial is being distributed this season; and having both outdoor and greenhouse grown stock of it, I’m prepared to land it in the Antipodes at the right season to plant. The one in question is not the one of the flower show just closed, as of course you would know. Rose Red is smaller but pleasantly fragrant, and has behaved right successfully for me., both winter and summer, indoors and out. Z-36 (simply a record book identification, needing a name) is too new but a good looker and multiplier, with a fragrance usually called ‘like orange blossoms.’”



Waikare-moana-Rotorua Highway.

EXAMINATION PAPERS, NOVEMBER, 1938.

JUNIOR EXAMINATION (Syllabus No. 1).

HORTICULTURAL BOTANY.

(Time allowed—Three Hours.)

NOTE.—SIX ONLY of the following questions are to be answered, including No. 8, which is compulsory.

Use diagrams to illustrate your answers when you can do so.

1. Describe the form, the structure and the uses of a green leaf of any plant named by you.
2. In what different ways do green plants get their supplies of nitrogen? How would you treat a soil that is deficient in nitrogen, assuming that you are going to grow a particular crop, which you must name?
3. What is meant by "partial sterilization of the soil?" How is it brought about? What is its purpose?
4. What are the structures together known as "the flower"? What are the functions of each? Illustrate by reference to a particular flower you have studied.
5. How does a plant obtain carbon? What use does it make of the substance it manufactures with carbon as an important part?
6. What is meant by "plant breeding"? Why is a knowledge of pollination and fertilization necessary for successful breeding?
7. What is a "Seed," and what are the conditions necessary for germination of seeds?
8. Describe in technical language the botanical specimen supplied by the supervisor.

JUNIOR EXAMINATION (Syllabus No. 1).

PRINCIPLES OF PLANT PROTECTION.

(Time allowed—Three Hours.)

NOTE.—SIX ONLY of the following questions are to be answered. Use diagrams to illustrate your answers when you can do so.

1. How would you differentiate between a summer and a winter petroleum oil?
2. Give life histories of a downy-mildew and a mould.
3. Outline a spray programme for control of codling-moth and powdery-mildew of apples.
4. Compare the general morphology of a scale insect and a red-mite.
5. What part do insects play in spread of virus diseases?
6. Describe chemical disinfection of soils for destroying fungi and insects.
7. Discuss the preparation of burgundy mixture.
8. In what ways would you use nicotine as an insecticide?

INTERMEDIATE EXAMINATION (Syllabus No. 2).

PRINCIPLES OF HORTICULTURE.

(Time allowed—Three hours, including Special Subject.)

NOTE.—SIX ONLY of the following questions are to be answered.

1. What are the main properties of the organic manures in general use? What precautions are necessary in their preparation, storage, and use?

2. What are the principal chemical and physical properties of a soil and subsoil that have to be considered when a planting scheme is being prepared?
3. What is the effect of ploughing and cultivation on a soil; also the time and depth of the operations?
4. What are the advantages of a rotation of crops; also sowing down in grass after cropping, and grazing the land for three years before cropping again? Under what conditions is this latter treatment advisable?
5. What are the reasons for the various precautions and operations in the preparation and planting of hard-wood cuttings?
6. In what way may a high quality seed strain be maintained by selection, in annual crops? Describe the methods in detail as regards one or two special crops.
7. What are the general principles which should be observed in picking and packing apples and peaches?
8. What chemicals may be used with advantage for the control of pests and diseases in a soil; both before and after planting?

INTERMEDIATE EXAMINATION (Syllabus No. 2.)

PRACTICE OF HORTICULTURE.

(Time allowed—Three hours, including Special Subject.)

NOTE.—THREE ONLY of the following questions are to be answered; also THREE ONLY of the questions on the Special Subject nominated.

1. Write a short account of suitable manurial treatment of a mixed herbaceous border before and after planting.
2. Name a few hard-wood plants which flower on the new wood and one-year-old wood respectively. Describe the method of pruning a plant of each kind.
3. Name a few plants which may be propagated by means of root cuttings. Describe the method in one instance.
4. How would you obtain a level surface on a piece of uneven ground of considerable extent?
5. Write a short essay on seeds of trees, or seeds of herbaceous flowering plants, or seeds of vegetables.
6. Describe in detail the method of fumigating plants affected with insect pests, in a glasshouse.

INTERMEDIATE EXAMINATION (Syllabus No. 2).

Special Subject.—THE FLOWER GARDEN IN ALL ITS ASPECTS.

(Time allowed—Three hours, including "Practice of Horticulture.")

NOTE.—THREE ONLY of the following questions are to be answered; also THREE ONLY from the paper on "Practice of Horticulture.

1. It is desired to fill flower beds with Daffodils and Tulips; state when these should be planted; name the sorts you would plant and what associate carpeting plants you would use with them.
2. Select ten flowering shrubs and state how each should be pruned and the time of the year for this operation.
3. Write a short essay on one of the following:—Carnation, Rose, Dahlia, Chrysanthemum. Name and describe some of the outstanding varieties of the one you write about.

4. Name four plants suitable for hedging purposes, with a brief description of each.
5. What do you understand by the terms "annual," "biennial," "herbaceous," "perennial," "variety," "species," "genus"?
6. Name twelve sorts of herbaceous plants that are best increased by division and state at what season this operation can best be done.

NOTE.—The same paper was used for the Diploma Examination without proviso as to the number of questions.

INTERMEDIATE EXAMINATION (Syllabus No. 2).

Special Subject.—TREES AND SHRUBS TOGETHER WITH THEIR PROPAGATION AND USE IN HORTICULTURE.

(Time allowed—Three hours including "Practice of Horticulture.")

NOTE.—THREE ONLY of the following questions are to be answered; also THREE ONLY from the paper on "Practice of Horticulture."

1. Describe briefly the four methods of propagating Camellias, i.e., layering, grafting, inarching and cuttings—naming the varieties or species you would propagate by one or other of the above methods.
2. Write a short essay on the genus Rhododendron.
3. It is desired to plant a sloping bank having rather poor and dry soil. How would you proceed with the work and name twelve shrubs or trees suitable for such a situation.
4. Select twelve flowering shrubs and state how you would propagate each. If any of the ones selected by you are to be grafted or budded, name the stocks you would use.
5. When and how would you propagate Hydrangeas? Mention some of the newer sorts and state what you think is the best location for these.
6. Name one or more flowering shrubs or trees which will flower respectively in each of the twelve months of the year.
7. Give the names of four varieties of shrubs that are suitable for growing under the shade of larger trees.

INTERMEDIATE EXAMINATION (Syllabus No. 2).

Special Subject.—ROCK-GARDENING.

(Time allowed—Three hours including "Practice of Horticulture.")

NOTE.—THREE ONLY of the following questions are to be answered including No. 1 (which is compulsory).

1. Write an essay on the construction of a rock-garden under the following headings: (1) Aspect, (2) Choice of materials, (3) Drainage, (4) Location of dwarf growing shrubs. Candidate to use diagrams.
2. Name twelve New Zealand plants suitable for rock-work.
3. Write a short essay on the Saxifragas OR on the alpine Dianthus.
4. Give a list of six lime-loving alpines and of six non-lime-loving Rock plants.
5. Name six dwarf Conifers for Rock-garden work.
6. Name two or three well known authorities in Rock-garden literature and state the names of their books.

INTERMEDIATE EXAMINATION (Syllabus No. 2).

Special Subject.—GLASSHOUSE-MANAGEMENT.

(Time allowed—Three hours, including “Practice of Horticulture.”)

NOTE.—THREE ONLY of the following questions are to be answered; also THREE ONLY from the paper on “Practice of Horticulture.”

1. Propagating frames are now frequently heated by electricity. How would you suggest that this be installed? Explain your meaning by the aid of diagrams.
2. How would you grow a commercial crop of Tuberous Begonias from seed and tubers—state time of sowing seed and give details of subsequent treatment?
3. Describe your method of grafting, under glass, one of the following: Rhododendrons, Clematis, Camellias.
4. Choose one of the following and describe your method of production of crop under glass: Tomatoes, Grapes, French beans.
5. Give a description of watering and “damping down” glass-houses during the different seasons of the year.
6. Choose one of the following groups of Orchids and describe how you would grow them with special reference to potting, temperatures and watering: Cypripediums, Cymbidium, Odontoglossums.

NOTE.—The same paper was used for the Diploma Examination without proviso as to the number of questions.

DIPLOMA EXAMINATION. (Syllabus No. 3).

PRINCIPLES AND PRACTICE OF HORTICULTURE.

(Time allowed—Three Hours.)

NOTE.—SIX ONLY of the following questions are to be answered.

1. Soil surveys are being undertaken in some parts of the Dominion. What advantages to horticulture may be expected from them?
2. Some mature trees have a tendency to decay or break up: how may these troubles be treated with a view to prolonging life?
3. What do you know about the “growth substances” now available for facilitating the rooting of cuttings?
4. To work over a mature apple-tree to a more profitable variety it was necessary to cut away the tops to the main branches and then crown-graft them. Describe the new method which will bring the tree into profit in 2 years, instead of 4 years by the old method.
5. What are the respective merits of the two classes of plant foods commonly known as organic and artificial fertilisers?
6. Describe the method of keeping a green (lawn) in high condition in your district.
7. Describe an association of trees and shrubs specially suited to your locality. Include a statement regarding the soil and climate.
8. Write a short essay on the use of electricity for the heating of glasshouses and frames.

DIPLOMA EXAMINATION. (Syllabus No. 3).

Special Subject.—LANDSCAPE-GARDENING.

(Time allowed—Three Hours.)

1. Give grass seed mixtures for (a) light soils, (b) heavy soils, and (c) shady situations and state quantities per square chain. How

- can weeds in lawns be controlled by chemical materials?
2. Write out a specification for the laying down of a full sized bowling-green.
 3. What do you understand by a "dry stone" retaining wall? Give a list of plants suitable for planting in the interstices of such.
 4. What is meant by glades or vistas? Show by sketch how these can be secured.
 5. Name four authorities on Landscape Gardening and give the names of some of the books they have written.
 6. Make a cross section drawing of an entrance drive.

DIPLOMA EXAMINATION. (Syllabus No. 3).

Special Subject.—NURSERY-MANAGEMENT.

(Time allowed—Three Hours.)

1. Assuming that you plant a block of one hundred varieties of Narcissus in rows, show by diagram how you would label these so that no confusion could arise at lifting time.
2. Give a general potting mixture for nursery use and special potting mixtures for some groups of plants selected by you.
3. Name the root-stocks required and state how they are propagated for Roses, Apples, Plums, Cherries and Oranges.
4. In the absence of farmyard manure, how would you maintain a supply of organic matter in nursery lands?
5. What are the uses and the limitations of modern power machines on nursery lands?
6. Choose either Narcissus or Tulips and describe your method of planting, lifting, grading and storing; state the class of soil you would consider the most suitable.

DIPLOMA EXAMINATION. (Syllabus No. 3).

Special Subject.—HORTICULTURAL ENTOMOLOGY IN RESPECT OF THE COMMONER INSECT PESTS PRESENT IN NEW ZEALAND.

(Time allowed—Three hours.)

NOTE.—SIX ONLY of the following questions are to be answered. Use diagrams to illustrate your answers when you can do so.

1. Compare the mouth-parts of a caterpillar, honeybee, moth, and an aphid.
2. What are three main types of insecticides; explain by example how they act?
3. How would you recognise the larvae of moths, weevils, and earwigs?
4. Give an account, with examples, of the three main groups of scale insects.
5. In the absence of the insects themselves, by what symptoms would you judge that a seedling crop had been attacked by cutworms, grass-grubs, or grass-grub beetles?
6. Give an account of the life-history, characters, and control of the pear saw-fly and the cherry saw-fly?
7. What steps would you take to protect a crop from (1) earwigs and (2) slugs?
8. Describe the life-history of and method of attack by the bulb eelworm and potato eelworm and suggest some method of control.

NOTE.—See also two Special Subjects under heading of Intermediate Examination.

INSTITUTE NOTES.

CONGRATULATIONS have been conveyed to Mr. M. R. Skipworth, B.Sc., (Forestry) and N.D.H. (N.Z.) on his promotion to the position of Superintendent of Reserves, Dunedin, as from the 1st April next. In acknowledging the congratulations, Mr. Skipworth advised that he was leaving on the 30th May on a six months' tour of England and Europe, authorized by the Dunedin City Corporation.

R.H.S. HORTICULTURAL COLOUR CHART:—A copy of this was viewed with great interest, at a recent monthly meeting of the Executive Council. Members were unanimously of opinion that it is a unique and outstanding production.

EDUCATIONAL:—Appreciation and congratulations from the Executive Council and the Examining Board have been conveyed to the Canterbury District Council on its excellent syllabus of lectures at the Christchurch Technical College for the current season.

GROUP B:—It was resolved at the Conference "That the Dominion Council be recommended to consider cases of hardships in respect of Group B." After reference to the Examining Board, the following recommendation was received and adopted: "That Group B. be re-opened only to those who were eligible when the Group was last closed." Circulars have been sent to those thought to be eligible, but application is invited from any person who may consider himself eligible.

NATIONAL FLOWER:—The Hon. Minister of Internal Affairs has acknowledged Conference's recommendation of the Kowhai as New Zealand's National Flower and his further consideration is being given to the Institute's representations.

JUDGING RULES COMMITTEE:—In respect of a class in the Decorative Section worded "Basket of Chrysanthemums with Autumn foliage," an entry was disqualified by the judge on account of the inclusion of dry Hydrangea heads and a ruling was asked for. This was as follows:—"The word "foliage" envisages leaves or leafage and it is the opposite of petal or petals which make up the Hydrangea head. Apart from this, the class asks for Chrysanthemums only and the introduction of another flower into the exhibit is also not according to Schedule."

Royal New Zealand Institute of Horticulture

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