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Journal of the New Zealand Institute of Horticulture

VOL. 1

WELLINGTON, SEPTEMBER, 1929.

No. 2.

IRISES.

By A. H. BURGESS, Waikanae.

In dealing with the subject of irises within the limits of an article in this Journal, it is possible only to touch lightly on the various sections of this extensive genus, as they appear to the average garden lover.

For all practical purposes irises may be divided into bulbous and non-bulbous, or rhizomatous rooted, classes. These in turn are divided up into various sections and subsections, many of them differing widely in the treatment required, season of blooming, and suitability for various branches of garden work.

It may safely be said that there is no class of soil but what is suitable for some species or variety of iris. Some thrive in hot, dry situations, others are very partial to damp cool positions, providing that the ground does not become sodden.

Some varieties are at home in the shrubbery, while quite a number are ideal subjects for rock gardens.

With but very few exceptions the species of the iris family are perfectly hardy and easy of cultivation, and this is a point that appeals very strongly to the average gardener.

It is only of recent years that the gardening public has realised the adaptability of the iris for all classes of garden work, from the long herbaceous border to the compact rock garden. More particularly is this the case in New Zealand.

The rhizomatous is by far the largest and the most important class of irises, and the one in which the greatest advance has been made in recent years.

Bearded Section.

The bearded flag iris is the largest section in this division, while the beardless, such as the *Spuria*, the *Kaempferi* or Japanese, and the *Sibirica* groups, also hold an important place.

The bearded irises are usually divided up in England into three sections, according to their time of blooming, known as April-flowering, May-flowering and June-flowering; but in New Zealand,

on account of the milder winters we enjoy, there is not the same distinct season of blooming. It has been found that they do not flower in the same regular sequence as they do in colder climates. That is to say, the different varieties do not follow each other in the same order of blooming year by year as one would expect, but are apparently influenced to a considerable extent by the weather of the preceding autumn and winter. One fact is well established, that these irises bloom most profusely in those seasons which follow a long dry summer, showing the beneficial effect which the sun has on the ripening of the rhizome.

Generally speaking, the earliest flowering varieties are the most dwarf in growth, though there are exceptions to this rule as in the case of *Purpurea Grandiflora*, the old winter-flowering variety, and *Kharput*, which in height and size of bloom also, are well up to the average of the later flowering varieties. Of course, even among the latter, we find varieties growing no higher than twelve to fifteen inches.

Until recent years the various types of iris which constitute the section known as bearded irises were so distinct in their colouring that it was an easy matter to classify any variety, but now, owing to the wonderful improvement that has taken place of late years through the efforts of the hybridist, the old distinctions have largely disappeared, and in their place such combinations of colouring have been evolved as to defy classification.

The colours now range, without any real break, from pure white to all shades of blue, purple, lavender, pink, rose, and bronze, many varieties showing a blending of several of these colours.

The yellows, which until recently showed the least advance in colouring, have now been added to by the introduction of a golden yellow. Hybridists for many years had been working to get a deep yellow iris, recognising how important a factor such a variety would be in the production of many more new varieties and combinations of colour. We may look forward to the introduction of many really distinct and beautiful varieties in the near future.

There is much scope for the hybridist in these irises, and the results thus far have been so encouraging that it is little wonder that so many enthusiasts in England, America and the continent of Europe are devoting their efforts to the advancement of the species.

In New Zealand not very much has been done yet in this direction, but with such a favourable climate as we have in many districts for ripening seed, we may confidently look forward to the Dominion taking a prominent part in the introduction of new varieties.

A few hints on hybridization may be of interest to iris growers. In general the process of iris hybridising is a simple one. Choose as the seed parent a bloom that has been open about twenty-four hours. Carefully examine the stigmas, the small hairy lips found below the crests, in order to see that they are quite clean and free from pollen granules, which may have been deposited there by bees or other insects. Then remove the anthers, being careful not to let any pollen fall off and blow about or the bloom may become self-

fertilised. Take the anthers from a bloom just opened of the variety you have chosen as the pollen parent and transfer the dry pollen by means of a fine camel-hair brush to the stigmas of the seed parent. One careful pollenisation is usually sufficient to fertilise the seed, though if the weather be dull it is advisable to repeat the operation the following day.

Pollinating should be carried out in the middle of the day when the sun is warm and the air dry.

Any other flowers coming out on the same stem later should be picked off as soon as possible, so that all the strength of the plant may go into the seed pod.

Seed set in November seldom ripens before the end of January. When the pod begins to turn yellow or brown, and shows signs of bursting, pick it and carefully remove the seed, which must then be stored in a dry, airy place until brown, and quite dried out. As soon as it is ripe it should be planted in a deep box, and kept outside in partial shade. The soil should be made up of equal parts of sand and loam, and the seed planted about three-quarters of an inch deep. Keep the soil fairly damp during the autumn months. The seedlings should commence to show up during the winter, though by far the greater number will not germinate till August or September. Leave the young seedlings in the box until mid-summer when they may be planted out in the open ground. If the plants are well grown a number of them may bloom in the following spring.

Most of the best varieties of recent introduction have been the result of careful planning and successive crosses. However, even from two good standard varieties a fair proportion of seedlings will show good quality, while there is always a chance of securing something really outstanding.

In growing bearded irises a few points should be kept in mind. An abundance of lime in the soil is the first essential if they are to be grown to perfection. It is immaterial whether burnt or carbonate of lime is used; the only difference between the two is that the latter is slower in action but can be used more freely without any risk of burning the foliage.

Whichever form of lime is used should be applied broadcast over the beds during the winter.

The second point is, that in planting the rhizome should be left showing half above ground. This is most important as the amount of sun the rhizome gets will to a great extent determine the amount of bloom the plant will give the following year. This emphasises also the necessity for planting in the sunniest position available. If set too deeply the plants are more liable to suffer from a disease called rhizome rot, which will be dealt with further on.

Although bearded irises may be planted at almost any time of the year in New Zealand we have found that by planting during December and January these irises will establish themselves more quickly than if planted at any other time of the year, beside which they will give a much better show of bloom the following spring than if planted later in the autumn.

Generally speaking, the plants will have grown into large clumps by the end of the third or fourth year, and should then be lifted, broken up, and replanted. Naturally the more vigorous growers will require this breaking up treatment sooner than those varieties that are not so robust. We have had clumps of several varieties in their third season, that is to say within three years from planting out as a single rhizome, show from 30 to 35 flower stems at one time.

The main section of these irises, which is usually referred to among English growers as the June-flowering, commences to bloom with us in New Zealand about the middle of October, and continues by a succession of varieties until the middle of December.

Diseases of Bearded Irises. The only diseases to which bearded irises are subject are rhizome-rot, referred to previously, and leaf spot. Rhizome-rot seldom attacks plants except during a wet season. This disease, which may be easily recognised by the unpleasant odour given off by the affected parts, starts at the base of the rhizome, and quickly spreads through the whole plant. As soon as the disease appears the plant should be lifted and the decayed part cut cleanly away, after which it may be replanted in fresh ground, into which a liberal dressing of superphosphate has been worked.

Leaf-spot, as its name implies, is a disease affecting the foliage. The first indication of it is the appearance of tiny dark spots which gradually increase in size until in very severe attacks they coalesce and cover the whole foliage. This disease is easily checked in its early stages by spraying with Bordeaux mixture, 4-4-40 strength, or, if during the blooming season, by the application of a powder spray of an equivalent strength.

Varieties. It would be unwise to attempt to name the best twenty-five varieties of bearded irises grown to-day. There has been quite a controversy among the leading growers in England and America of late on the points required in a perfect iris, and while differences of opinion continue on this point it is hopeless to expect anything like unanimity in the selection. To many growers those varieties showing evidence of "Dominion" parentage, with its broad thick falls and pansy-like smoothness of texture, are the only ones favoured, while to others, varieties of more slender, branching habit and softer colouring, appeal most strongly.

ONCOCYCLUS AND REGELIA GROUP.

This small group of irises is the most difficult of all to grow successfully in our cool climate. They are natives of Syria and Persia and require to be thoroughly rested and dried off during the summer months. A good dressing of lime is beneficial when planting. Afterwards the soil around the plants should not be disturbed by cultivation. Keep free from weeds which should be removed with a knife. This group includes the well known Susiana, or Mourning Iris; Hoogiana, a variety of a lovely pale translucent blue; Korolkowii, and Vaga.

They bloom during September and October, and range in height from one to two feet.

Beardless Section.

KAEMPFERI OR JAPANESE GROUP.

One of the largest groups in the beardless section of rhizomatous-rooted irises is the Japanese. Unlike the bearded irises these do not like lime, and a cool moist situation suits them best.

Around the edge of a pond, or along the banks of a stream, is the ideal position, though they will do quite well in any good garden soil if they can be kept well supplied with water during their growing season. The blooming period of this group extends from the middle of December until about the end of January. They vary in height from $2\frac{1}{2}$ to $3\frac{1}{2}$ feet.

THE SPURIA GROUP.

This comprises a number of tall growing beardless irises blooming during November and December. They thrive well in a moist heavy soil. Their height ranges from two to six feet. The most prominent in this group are Spuria (type), lavender; Ochroleuca, white and primrose; Shelford Giant, creamy yellow; and Monaurea, golden-yellow.

SIBIRICA GROUP.

This section is distinguished by its grassy foliage and graceful habit. Like the Spurias, the Sibiricas thrive best in a rich damp soil and are very effective when massed by the waterside. They grow from two to four feet in height and bloom during November and December. Allied to the Sibiricas is Wilsonii, with creamy yellow flowers.

EVANSIA GROUP.

This small group comprises several varieties in which the beard is replaced by a crest. Included in this section are the pretty little iris japonica, generally known as Fimbriata, Teclorum, the Chinese roof garden iris, and Milesii, a variety with broad handsome foliage and claret-purple flowers. They should be planted in light sandy soil, in a sunny situation.

Miscellaneous Rhizomatous-rooted.

It would not be possible to refer here to all the various species of iris which come under this heading but a brief reference to a few of the more important may be of interest.

The Californian irises are a distinct species and on account of their dwarf habit are very suitable as rock garden plants. They are most difficult subjects to transplant and should be raised from seed. Lime is fatal to this species.

The Unguicularis, more commonly known as Stylosa, is a winter blooming iris, perfectly hardy and easily grown. The colours range from white to lavender and purple.

One other iris usually listed among the miscellaneous species that may be noted is Fulvala violacea, a free-flowering variety of an intense purple-violet shade, which blooms during December. The flowers are about three inches across. This iris grows about two feet high.

Bulbous Division.

Some of the species comprised in this division, such as the Spanish and English irises, have been grown in New Zealand for many years, and a brief reference to them is all that is necessary. This division also includes the Dutch, the Juno, and the Reticulata groups as well as a number of miscellaneous varieties. With the exception of the English group all the bulbous irises like a light sandy soil. They can hardly be excelled for decorative purposes, and large quantities of Spanish and Dutch irises are grown for cut bloom.

The Dutch iris is of comparatively recent origin, and is really an early giant Spanish iris, blooming here from the beginning of October onwards.

The Reticulata group, so named from the netted appearance of the bulbs, comprises several dwarf-growing varieties, and blooming during the winter and early spring months, they are very welcome in the garden.

The Juno group are distinguished by the thick fleshy roots, which adhere to the bulbs even when they are dormant. They are winter bloomers, and with the exception of Bucharica are very dwarf in growth.

One peculiarity of the flowers of this group, is that the standards, which are very small, reflex so greatly as to appear below the falls, which are quite large by comparison.

Iris Tingitana is a variety that has received much prominence in recent years by reason of the efforts that have been made to grow it for market purposes. It is a native of Tangier, in Morocco, where the intensely hot dry summer gives it the ripening and rest it requires, but in our climate it is with most people an unsatisfactory subject.

There are various other irises in this division, but it is not possible to deal with them all in the space available.



THE HOME GARDEN.

Horticultural Work for Summer.

BY WM. C. HYDE, *N.D.H.* (N.Z.).

" The earth,
 Made pregnant by the streams, gave birth
 To thymy herbage and gay flowers;
 And when drear winter frowns and lowers
 In spots less genial, ever here
 Things bud and burgeon through the year."

The Romaunt of the Rose.

The commencement of a rich harvest should now reward the labour of planning, planting and pruning. Flowering trees and shrubs blossom generously in the spring time, and with the flowering daffodils make a gay show. Roses and herbaceous plants will be growing steadily, preparing to take the duty of making a display in their turn. The new growth on roses should now be thinned, where it is crowded, retaining the better growth that is well placed. Herbaceous plants that are inclined to be weak should receive encouragement from a small dressing of sulphate of ammonia. Slugs are fond of plants of this class, and seriously retard growth in some instances. Finely powdered alum, broadcasted during an evening, successfully destroys them, with remarkable benefit to the plants in most instances.

Deep and thorough cultivation is a garden maxim that is often stressed, and most home gardeners faithfully observe the rule. Like most concise maxims, however, it is very apt to trip one up, and on occasion it may well be a serious vice. Its most rigorous application has excellent results in the preparation of the land for planting. By breaking up the soil to a considerable depth it is aerated, and by oxidation plant foods are liberated with much benefit to the crop which follows. At the present season, however, and amongst growing plants at all times, deep cultivation injures the most important part of the root system and does serious damage. The idea that plants can penetrate the soil best when it is loose is incorrect, and the reverse is generally the case. To keep down weeds amongst the flowers at the present time, and break up the surface crust after rain, cultivate the land in fine weather, but use a bright, sharp Dutch hoe and cultivate shallow.

The display of annual bedding plants is usually made in well defined areas. These may be prepared now by turning well under a good dressing of bone meal, 4 oz. to the square yard, and a week or so before planting out lightly working in a moderate dressing of superphosphate and sulphate of potash. The hardy plants can be put out at any time now, but in most districts the first day of November is sufficiently early for half-hardy annuals.

In preparation for transplanting gradually harden the plants by giving them more air, and for the last week a light scrim cover will be sufficient protection at night. Water them well the day

before planting, and when planting set them firmly in the soil. If you are so unfortunate as to have leggy, stunted plants—as sometimes happens—pinch them back to induce bushy growth, and in 10 to 14 days, when they are established, give them a dressing of nitrate of soda, 1 oz. to the square yard.

Lawns and greens will now be making rapid growth, and will require mowing frequently to keep the turf in condition. Good, well mown lawns are one of the most pleasant and attractive features in a garden, and for a month or so they will need regular attention in this respect if they are to look their best. For this work a sharp, clean machine is necessary, and it should be properly set. Everyone who has the care of a garden should thoroughly understand the working and setting of this machine. It may be sharpened by turning it over, reversing the action of the cutting cylinder, and feeding in emery powder and oil with a cloth as the cylinder is turned on the bed plate. This has the effect of sharpening the knives on the cylinder as well as the edge of the bed plate, and maintains a proper adjustment. When sharpened it should be wiped clean and the gears replaced as before.

The usual annual crop of weeds will now appear in the water tables and at the sides of walks and drives. One or two applications of a good weedkiller is the best method of dealing with this problem. For this purpose sodium chlorate has been used in France and America with great success. It is even effective in destroying satisfactorily the troublesome convolvulus. It is not poisonous, but is inflammable, and directions given with it should be observed. One pound dissolved in a gallon of water is sufficient for 48 square yards.

Those who contemplate making new gardens during the coming season should remember the month of March is by far the best time for sowing down lawns, and in the month of May planting may be commenced with great advantage.

In preparation for these final operations in garden-making, the ground should be well and deeply cultivated and thoroughly cleaned. Under most circumstances this preparation could with great advantage be commenced now. It would be especially suitable in the case of land infested with twitch and bad weeds. By breaking it in now it could be left fallow during the summer and well and easily cleaned. If the land is light a cover crop may be grown and turned under, or it may even be used for growing a vegetable crop. This early preparation has the further advantage of allowing the land to settle which greatly facilitates the work of making lawns with the smooth even surface which is so desirable.

Coincident with this work of the preparation of the land should be the working out of a garden design and planting scheme. The design is best when it has simple easy lines, and its effect will be due chiefly to well proportioned spaces and masses. The planting scheme should, if possible, provide for ample shelter from prevailing winds, and screens for unsightly objects, leaving open vistas where it can be done with best advantage. In considering the planting lists full advantage should be taken of the climate in which the land

is situated to grow plants that fail in less favoured positions. In this respect we have made many mistakes and very largely failed to make the best of our opportunities.

Without going into too much detail, mention may be made here of the old fashion that was very admirable of making a glass conservatory or vine-house adjacent to the dwelling. It formed a pleasant retreat—a sun room furnished with plants that was particularly popular in the more exposed situations. In the warmer localities a well paved, shady pergola is a handsome adjunct to the home, but if this is incorporated it should be thoroughly well designed and built to harmonise with the architecture of the house—as indeed should the conservatory if that suggestion is adopted.

THE ORCHARD.

"There is another circumstance in which I am very particular, or, as my neighbours call me, very whimsical; as my garden invites into it all the birds of the country, by offering them the convenience of springs and shades, solitude and shelter, I do not suffer anyone to destroy their nests in the spring, or drive them from their usual haunts in fruit-time; I value my garden more for being full of blackbirds than cherries, and very frankly give them fruit for their songs. By this means I have always the music of the season in its perfection and am highly delighted to see the jay or the thrush hopping about my walks, and shooting before my eye across the several little glades and alleys that I pass through."

"The Spectator,"

Joseph Addison.

The orchard will now be a bower of blossom with humming bees collecting nectar and paying good coin for what they take, in the form of fertilising pollen. While this is going on the orchard is best left alone, but when the flower petals have fallen the apples and pears will require the protection of a spray of arsenate of lead to prevent loss through the attack of the codlin moth. This is a fly-by-night visitor of sinister repute, whose only redeeming quality is the consideration it shows for its family. These crops may be saved from its attack only by applying this spray as soon as the fruit has set. It is made by placing 2 oz. of arsenate of lead paste (or 1 oz. of powder) in a bowl and working it up into a cream with a little water. It should then be poured and well stirred into a bucket of water, making it up to 4 gallons. This spray should be applied again after an interval of 2 to 3 weeks, and in most instances a third application will be required.

With these sprays it is usual to add one-third of a pint of lime sulphur to prevent the attack also of fungus parasites, such as that known as black spot. The lime sulphur is best diluted with a pint or so of water, and stirred well before adding it to the mixture.

If the trees are young, shallow rooting crops, such as peas, dwarf beans, strawberries, etc., may be grown in the alleys, but as soon as heavy cropping commences, this practice should be discontinued, and a clean fallow maintained for the present by occasional shallow cultivation. On heavy land that is moist and well drained, more

especially when the trees are of a vigorous type, the orchard is sometimes sown in permanent grass with good effect, in which case it should be mown as may be necessary, and the grass allowed to remain as a mulch where it falls.

A certain amount of fruit dropping takes place after setting, under even normal conditions, and when this has finished—usually about the end of November—the trees should be carefully inspected and the fruit thinned as required. This operation requires considerable courage, but the health of the tree and next season's crop depend on the proper execution of this operation. What amount of fruit a tree may safely mature will depend on its mechanical strength and its vigor. The heavy cropping varieties that have been produced and are now commonly grown readily crop themselves out unless attended to in this respect. Give special attention to thinning, or even stripping, the tops of leaders, where the weight of fruit is apt to break them off and check or disfigure the tree. Short-stemmed apples growing in thick clusters should be thinned to twos or threes. They are then more readily covered with protecting sprays to save them from the attack of parasites.

THE GARDEN ENCLOSED.

This section, as previously recommended, is devoted to the cultivation of the more permanent crops such as asparagus, rhubarb, herbs, and small fruit; also tomatoes, egg plants, peppers, seed beds, and salads. It is also a suitable place for cold frames and hot beds, for raising young plants. Useful crops should now be available from the beds of asparagus and rhubarb. These plants love moisture and generous treatment, and give easy and bountiful crops where these are supplied. About the end of November the harvesting of these crops should cease, to allow the plants to recover and develop strong crowns for the following season.

As the strawberry bed comes into flower a dressing of nitrate of soda or sulphate of ammonia will be beneficial. This is an attention from which most other kinds of small fruits, such as currants, gooseberries, raspberries, etc., would receive benefit at this stage. After lightly working in the manure, and cutting away any runners that have been made, the strawberry bed should be given a mulch of straw, or, in its absence, rushes may be laid in the rows and pine needles round the plants. This keeps the plants cool and moist, and prevents the berries from becoming soiled by splashing rain. Dry weather seriously checks this crop, and under such conditions, especially on light land, generous watering is necessary.

Raspberries too are seriously checked under droughty conditions, and the crop may be only obtained then by giving it similar attention. This crop now requires shallow cultivation to keep down weeds and conserve moisture. Of the young canes sprouting from the stool, reserve as many of the best as may be required for fruiting the following season, and rigorously suppress the remainder.

Tomatoes, peppers, and egg plants in the frames should now be making steady growth, and may be given more air in fine weather

to gradually harden them off. Towards the end of the month of October they should be placed outside in scrim covered cradles to complete the process. This should be done with careful consideration of the weather conditions at the time so that the plants do not receive a check; negligence in this connection is a very common fault. The plants then become blue and starved and take a long time to recover. With hardly any exception plants at this stage would receive benefit from one or two applications of Bordeaux spray for the prevention of fungus disease. Complete the preparation of the land in which these crops are to be planted by applying fertilisers and lightly cultivating them in a week or so before planting. Two oz. of superphosphate and 1 oz. of sulphate of potash per square yard may be taken as an average dressing. In most districts the danger from damaging late frosts is past by the 1st November, and the plants may then be planted out. Set them firmly and train the tomatoes to one stem on wires or sticks. Peppers and egg plants are rather more tender, and transplanting should be deferred for a fortnight or so later.

Plants of savoy cabbage, broccoli, cauliflower, leeks, and celery will be required early in the New Year to plant out in ground that will then be vacant after the harvesting of potatoes, peas, and other early crops. These useful winter supplies should now be sown thinly in beds of rich friable soil and grown on steadily without a check. Seed strain is of great importance with these crops, and every care should be taken to get the best. To obtain good plants the celery should be sown without delay. It is usually grown in boxes under glass, and is generally sown too thickly. This may be avoided by mixing the fine seed with a quantity of bonemeal, fine sand, or sifted wood ashes before sowing. Place the boxes in a cold frame, and see they get the shade and moisture these plants require. When the plants are large enough to handle prick them out 2 inches apart in boxes of rich, light soil and keep them moist.

Beds of lettuce, when established after planting out will be greatly improved by a dose of liquid manure occasionally. An egg cupful of nitrate of soda dissolved in 4 gallons of water is often a satisfactory way of meeting this requirement.

A sowing of spinach in early October is a useful crop.

"I have always thought a kitchen garden a more pleasant sight than the finest orangery, or artificial greenhouse. I love to see everything in its perfection; and am more pleased to survey my rows of colewarts and cabbages, with a thousand nameless pot-herbs, springing up in their full fragancy and verdure, than to see the tender plants of foreign countries kept alive by artificial heat, or withering in an air and soil that are not adapted to them."

Ibid.

In the country where land is available an acre or so may be set aside for vegetable crops which may be grown with mangels, carrots, chou moellier, etc., and so provide food for "man and beast." The advantage of such an arrangement is that most of the work may be done by a horse team more quickly and economically. Or if the

area is small, wheeled hand drills, hoes, and cultivators may be used after the land has been ploughed, disced, and harrowed down.

To the seedling crops, that have been already sown, attention should now be given by thinning them out. If good seed has been sown thinly the work will be light; if not, one should learn from the labour involved to remember to do so on the next occasion. Experience is the best of teachers. Take advantage of dry, bright weather to destroy seedling weeds before they are any size, that is one of the secrets of success. Cabbage and cauliflower plants recently set out should receive a dressing of nitrogenous manure as soon as they are established, which treatment may be repeated after an interval of 3 to 4 weeks.

Spring cabbage and broccoli will now be finished, and the land free for other crops. After ploughing and cultivation it will be in excellent condition for such half-hardy crops as dwarf and runner beans, pumpkins, and marrows, and, in the warmer districts, melons and kumaras. The main beetroot crop may also be sown early in the month of October.

THE LODER CUP.

RULES GOVERNING COMPETITION.

History.—The Loder Cup was presented by Mr. Gerald W. Loder, of Sussex, England, in 1926, to the Dominion of New Zealand for "The preservation and development of the incomparable flora of New Zealand," these being the words in which the wishes of the donor were expressed. The Cup itself bears this inscription.

Control.—The Loder Cup has been accepted by the Government of New Zealand and remains its property. Its custody has been vested in the Hon. Minister of Agriculture.

The Minister has established a committee, known as the Loder Cup Committee, whose functions are to suggest the conditions under which the Cup will be awarded and to deal with all matters pertaining thereto.

The Minister has approved of the following rules made by the Committee:—

(1). The Loder Cup shall be awarded annually to the winner of an open competition for New Zealand plants staged at specified flower shows arranged under the auspices of the Horticultural Societies of Auckland, Dunedin, Wellington, and Christchurch. The Cup shall be a Challenge Cup and shall not be won outright.

(2). The Cup shall be awarded first at a specified flower show arranged by the Auckland Horticultural Society, and thereafter at



THE LODER CUP.

one or other of the annual flower shows arranged by the Horticultural Societies of Dunedin, Wellington and Christchurch, the order in which these cities are named indicating the sequence in which the Cup will be available for award in the respective cities.

(3). Transfer of the Cup from centre to centre shall be arranged through the Department of Agriculture.

(4). The Cup shall be handed to the Secretary of the Horticultural Society at whose flower show the Cup is being competed for in any particular year, one month prior to the date of competition.

(5). The Horticultural Society shall assume full responsibility for the care of the Cup and all liability for any damage or loss which may be incurred during the period in which it is entrusted to the Society.

(6). The Loder Cup Competition shall be included in the schedules of the various Horticultural Societies under whose auspices it will be awarded; due notice of the competition shall be given by the Society concerned with the award in any particular year; further, all local arrangements such as those connected with space, judging, advertising, etc., shall be made by the respective Horticultural Societies.

(7). The displays of New Zealand plants arranged by competitors for the Loder Cup shall be judged by judges selected from the approved list of judges as drawn up by the New Zealand Institute of Horticulture.

(8). The Loder Cup shall be awarded for the best collection of New Zealand plants grown by the exhibitor under bona fide garden conditions and displayed at specified flower shows as indicated in paragraphs 1 and 2 above. The display may consist of either living plants growing in pots or tubs, or portions of plants taken from living specimens grown by the exhibitor. The plants displayed must have been the property of the exhibitor for at least twelve months prior to the competition.

(9). The scale of points to be taken into consideration in making the award shall be as follows:—

	Points.
1. Number of varieties	40
2. Quality of plants	15
3. Naming of varieties	15
4. Descriptive labelling	15
5. Artistic display or effect	15
	<hr/>
	100
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NOTES:

1. *Number of Varieties*.—The strict botanical definition of the term "variety" is intended to be adopted. Consideration will be given to displays in which the exhibits are well selected, well balanced as between trees, shrubs, herbaceous plants, ferns, etc., so that the whole display is representative of New Zealand plants suitable for garden cultivation.

2. *Quality of Plants*.—First preference will be given to living specimens whose vigour of growth and general appearance will also be taken into consideration. Dried specimens should show as far as possible all portions (leaf, flower, seed, etc.) of the plants from which they have been taken.

3. *Naming of Varieties*.—Labels bearing correct Maori, English, and botanical names should be attached to all exhibits. The standard of reference to determine correct nomenclature shall be any recent authoritative manual dealing with New Zealand plants.

4. *Descriptive Labelling*.—Points shall be awarded to labels which serve an instructive purpose by briefly describing such matters as the characteristics of the plants, its habitat, its cultivation, and its uses.

5. *Artistic Display*.—Consideration shall be given to the general attractiveness, and artistic effectiveness, with which the whole display is arranged.

(10). The Cup shall be presented to the winner publicly at some function arranged by the Horticultural Society making the award.

(11). The Cup shall be retained by the winner until one month prior to the date of the next competition for the Loder Cup when it shall be returned to the Secretary of the Horticultural Society or to the nearest office of the Department of Agriculture. During this time the winner shall assume full responsibility and liability for the care of the Cup.

ANNUAL CONFERENCE OF THE NEW ZEALAND INSTITUTE OF HORTICULTURE.

REPORT OF EXECUTIVE FOR 1928-29.

The seventh year's work has been one of quiet progress, principally along educational lines, but other avenues of work have received due attention.

Education.—The Examining Board has been particularly active during the past year in dealing with applications for Diplomas (without examination), arranging for the examination of Diploma candidates under Group "C" of the regulations and deciding the numerous questions regarding service, etc., of candidates for examination under Groups "A," "B" and "D." The Board has also brought under the notice of public and private schools (primary and secondary), nurserymen, etc., the facilities existing for horticultural education and has endeavoured to secure extensions of such facilities. The arduous and valuable work of the Board is fully recognized by the Executive.

Statement of Receipts and Payments for year ended 31st March, 1929.

RECEIPTS.				PAYMENTS.			
	£	s.	d.		£	s.	d.
Balance brought forward (1st April, 1928)			275 8 8	Salaries—			
Subscriptions—				Dominion Secretary	50	0	0
Individual :				Dominion Secretary (Bonus, 1927-8)	50	0	0
Arrears	32	10	0		100	0	0
Current	125	5	0	Dominion Organiser	50	0	0
In Advance	9	7	6	Travelling Expenses—			150 0 0
Life	5	5	0	Dominion Secretary	3	10	1
	172	7	6	Dominion Organiser	11	16	9
Affiliated Societies, etc.—				Banks' Lecturer	13	19	6
Current	24	3	0	Allowance to Delegates to Annual Conference	6	0	0
In Advance	1	1	0	District Council Capitalation Fees—			
	25	4	0	Auckland	10	12	6
Advertisements in No. 5			197 11 6	Palmerston North	4	15	0
Bulletin			9 0 0	Hawke's Bay	2	7	6
Sales of N.Z. Horticultural Judges' Register			0 6 0	Canterbury	2	12	6
Fees—				Publications—			20 7 6
Diploma (without examination)	134	8	6	Bulletin No. 5	26	9	0
Examination	29	8	0	N.Z. Horticultural Judges' Register	10	5	0
	163	16	6	Annual Report, 1928	14	18	6
Government Grant	100	0	0	Conference Order Paper.	3	17	6
Interest on P.O. Savings Bank Account	6	3	2	Examination Regulations (with introduction)	5	12	6
				Expenses of Social Gathering at Annual Conference	51	2	6
				Educational Sundries—	4	0	0
				Diploma Design	26	5	0
				Diploma Forms	10	10	0
				Common Seal	4	6	3
				Advertising for Students	4	10	0
				Refunds of Fees—			
				Diploma (without examination)	19	19	0
				Examination	3	3	0
					23	2	0
							68 13 3

Office Expenses—		
Printing and Stationery....	22 0 0	
Postages	18 17 8	
Sundries	4 10 10	
Institute Cups—		45 8 6
Purchase of 4 Cups with		
Plinths and Charges	37 0 0	
N.Z. Customs Duty	8 6 10	
		45 6 10
Balances at March 31, 1929—		
Post Office Savings Bank	256 8 11	
Bank of N.Z. (current)....	60 12 0	
In hand (Dominion Or-		
ganiser)	5 0 0	
		322 0 11
		<u>£752 5 10</u>

Statement of Affairs as at 31st March, 1929.

LIABILITIES.		ASSETS.	
	£ s. d.		£ s. d.
Subscriptions in advance	11 13 6	Office Furniture .....	...
District Council Capitation Fees	17 11 0	Balances—	...
Bonus to Dominion Secretary	100 0 0	Savings Bank	256 8 11
Diploma Fund	169 9 9	Bank N.Z.	60 12 0
Examination Fund	16 2 6	Organiser	5 0 0
Sundry Creditors	11 16 3		322 0 11
Balance, being excess of Assets over Liabilities	2 12 11		
	<u>£329 5 11</u>		<u>£329 5 11</u>

Outstanding subscriptions are excluded from the Statement.

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

I certify that I have examined the books of the N.Z. Institute of Horticulture, and that, in my opinion, the Statement represents the true and correct position of the Accounts.

LLEWELYN A. JONES, C.A.N.Z., Auditor.

National Botanic Gardens.—This matter was before the 1928 Conference, and the President was authorised to approach the Government and secure, if possible, a subsidy for the proposals before the Conference. The President got into touch with the Prime Minister and Minister of Agriculture but the change of Government at last election has made it necessary to go over much of the work again. It is hoped that it will be possible to submit to the coming Conference a satisfactory statement of the Government's attitude towards the Institute's proposals.

N.Z. Horticultural Judges' Register.—The Register referred to in last year's report was published just before the 1928 Conference met and should prove a boon to Show Societies by providing them with a list of recognised judges in the various classes of exhibits. General appreciation has been expressed regarding the issue of such a publication and at the nature and arrangement of the information furnished.

Bud Selection and Survey.—The Institute, in conjunction with the Department of Scientific and Industrial Research, is actively engaged in research work in connection with citrus fruits, the work being carried out in Auckland by a small committee of the Institute and Mr. Green, Dominion Organizer, under the general direction of a Wellington committee representing the Department referred to and the Institute.

Preservation of Native Bush.—As occasion offered the Institute has initiated or assisted movements for the preservation of specific areas of native bush, the Auckland District Council being particularly active in this direction. No decision has yet been come to regarding the proposed reservation of native bush along the route of the new road between Te Whaiti and Waikaremoana, a distance of 30 miles, but the Scenery Preservation Board has inspected the bush in question and it is hoped to hear of a satisfactory decision at an early date. The reservation of this bush is important, not only for its value as native bush, but because of its importance in connection with water conservation, tourist traffic and the preservation of the native fauna.

Registration of New Varieties and Protection of Hybrids.—Information having been received that in Canada power to grant patents to growers of new plants now exists the Canadian Horticultural Council has been written to for fuller particulars. No further information has been received from the High Commissioner for New Zealand regarding cabled information that this subject had been considered by the International Heredity Conference held in Berlin in 1927, so it is possible the cabled statement referred to was in error. An application for the registration of a new variety of rose has been received by the Institute and a committee has been appointed to consider and bring down proposals regarding registration and awards of merit.

Institute Cups.—Four handsome challenge cups were imported during the year and two are being donated to the Auckland and

Wellington Horticultural Societies for annual competition at their shows. The other cups are held by the Institute and it is expected to utilize them shortly.

Publications.—The only publications issued during the year were:—

- (1.) N.Z. Horticultural Judges' Register (first issue).
- (2.) Annual Report for 1927-28 (including report of the 1928 Conference).

Authority for the publication of Bulletin No. 6 has been given and will be acted upon as soon as the material is available. The question of publications was before last Conference and an extension of the present programme was authorised as soon as finances permit.

Finance.—During 1928-29 the Government again made a grant of £100 to the Institute. This assistance is much appreciated and enables the Institute to undertake work that would otherwise of necessity be left undone. The Institute continues to add to its membership but a vigorous membership campaign is necessary in all districts if the Institute is to possess a membership capable of providing a finance which will meet, even in a moderate measure, the needs of the situation. While the finances of the Institute are sound it must be realised (a) that the granting of diplomas without examinations has provided a source of revenue that will cease in a few months, (b) that a substantial portion of the revenue from this source should be reserved for educational purposes, and (c) that the educational programme will involve an expenditure that cannot be met solely from examination fees.

District Councils.—During the year a District Council was established in Hawke's Bay and an effort is being made to establish one in Southland. Some of the districts are still too large for effective work, and it is felt that sub-division will be necessary as soon as it is possible to secure reasonably strong Councils in areas where at present little or no organisation has been attempted.

Conference of Horticultural Bodies.—At last Conference the Executive was authorised to see if it is possible to arrange for a simultaneous annual gathering in a given centre of (a) The New Zealand Horticultural Trades' Association (b) the Superintendents of Public Parks and (c) the members of the Institute. The Executive of the Institute is in correspondence with the other bodies to ascertain if the proposal can be carried out.

REPORT OF EXAMINING BOARD.

During 1927-28 the New Zealand Institute of Horticulture Act, 1927, was passed and examination regulations gazetted which enabled the Institute to put its educational scheme into operation.

Training of Students.—The Education Department agreed to the provision of classes in Horticulture at Technical Schools where a minimum of 10 students is available and at Auckland and Dunedin

such classes are in operation. At Christchurch it is anticipated that a suitable class will be provided and at Wellington arrangements have been made with the Workers' Educational Association for half-course classes in Biology and Horticulture respectively. As a number of horticultural students live away from centres where Technical Schools are in operation consideration is being given to the provision of correspondence classes, and, if practicable, it is hoped to be able to cater along this line for students who cannot avail themselves of facilities existing in the larger centres of population. During the year the Board recommended the following text-books for the use of students:—

Agricultural Botany (Percival).

Applied Entomology (Fernald).

Inquiries are being made as to the suitability of other text-books for our special needs and enrolled students will be advised of any receiving approval.

While classes for theoretic instruction for students are very necessary it is even more important that adequate practical training should be provided, and efforts are being made to secure such facilities in state, municipal, and private gardens and nurseries where skilled supervision is available. During the year all state primary schools (having an attendance of over 200) and public and private secondary schools have been advised of the educational programme of the Institute and the facilities for instruction being provided. Similar information has been supplied to nurserymen, seedsmen and florists throughout the Dominion. These steps, together with the publicity gained through the public press, have brought before those interested in horticulture the Institute's work and aims. The assistance of District Councils has been obtained for the purpose of making local arrangements for securing theoretic and practical training for horticultural students.

As students for the Institute's examinations are required to have specified periods of service in approved gardens, etc., an extensive list of gardens and nurseries throughout the Dominion in which qualifying service may be obtained has, with the cordial assistance of the Horticultural Division of the Department of Agriculture, been prepared. This list will be added to and amended as occasion requires.

The examination regulations provide that passes in Chemistry and General Science at the Education Department's Intermediate Examinations may be accepted as meeting the Institute's requirements in these subjects. As a number of the Institute's students have not sat for this examination, or, sitting for the examination, have not taken these particular subjects, the Education Department has kindly agreed to such students for the Institute's examinations being allowed to sit, for these subjects only, at the Intermediate Examinations of the Department.

Examiners.—Adequate arrangements have been made for securing the services of suitable examiners for both the oral and written examinations for candidates in the various "Groups" mentioned in

the examination regulations. The Board appreciates very highly the generous assistance so readily given.

Diplomas (without examination).—In order to secure uniformity in judging the qualifications of applicants for the Diploma under Section 6 of the Act, a standard was agreed upon which simplified the work of the Board and ensured justice to all applicants. In the report published in 1928 is a list of 61 to whom the Diploma was granted. Diplomas as per list attached have since been issued, making 105 in all to date. On 21st October, 1929, the right to Diplomas under this section will cease, after which date the Diploma can be obtained only by examination.

It is very pleasant indeed to notice what a very large number of highly qualified men are practising horticulture in New Zealand at present. It is a further source of gratification that the Institute has received applications for Diplomas from almost every horticulturist of note in the Dominion, indicating that they recognize that the Institute is fulfilling a very real purpose in the life of the community.

Examinations.—During the year 1928-29 six candidates sat for examination for the Diploma under "Group C," and of this number four were successful. The names of these successful candidates are also shown on the attached list. The right to examination under Groups "B" and "C" expires on 31/12/1929.

Candidates for examination.—A number of students have registered for the examinations of the Institute, and a considerable amount of the Board's time has been taken up in assessing the value of the qualifications possessed by the applicants. So far no examinations have taken place under Groups "A," "B," or "D," but it is anticipated that by the end of 1929 a number of candidates will be prepared to sit for the Junior and Senior Certificates (Preliminary and Intermediate examinations) under Groups "A" and "B."

Equivalent Diplomas and Certificates.—In order to be in a position to decide on the value of Diplomas, etc., under section 7 of the Act, the Board has gathered a considerable amount of information as to the standing of diplomas and certificates granted by recognized authorities in Great Britain, Ireland, Canada and Australia. The High Commissioner for New Zealand in London has been of very great assistance in securing information regarding the standing of such diplomas and certificates issued in Great Britain and Ireland.

Rules and Regulations.—At the 1928 Conference a rule was adopted making effective the granting of diplomas and certificates under section 7 of the Act. The stock of printed regulations is almost exhausted, and proposed amendments will be considered before re-printing takes place.

During the year an amendment of the regulations was gazetted authorizing the Examining Board to exempt "Group B" candidates from the passing of any examinations (other than the Professional Examination) where such exemption is considered reasonable. This was a routine amendment to provide authority which it was at first thought the Examining Board possessed under the original regulations.

List of Diplomas in Horticulture granted under the New Zealand Institute of Horticulture Act, 1927, since the issue of the last Annual Report:

SECTION No. 4.

Giles, Henry George....	....	....	Auckland
Hipwell, Ernest John	....	....	Auckland
Hollinger, George Joseph	....	....	Opaheke
Kingsbeer, Wallace Victor	....	..	Palmerston North

SECTION No. 6.

Adams, Walter William	....	....	Hastings
Anderson, Andrew James	....	....	Napier
Andrews, James Benjamin	....	....	Te Kauwhata
Attwood, George	....	....	Sawyer's Bay
Barker, William Henry	....	....	Lower Hutt
Bennett, Henry	....	....	Dunedin
Brown, Albert George	....	....	Auckland
Brownlee, George Herbert	....	....	Sawyer's Bay
Buxton, Alfred William	....	....	Christchurch
Cutler, Herbert John Ross	....	....	Auckland
Darton, Henry Lawrence	....	....	Christchurch
Davey, Mason	....	....	Wellington
Davies, Robert William James	....	....	New Plymouth
Doggett, John William Thomas	....	....	Blenheim
Evitt, William Ernest	....	....	Auckland
Exler, Walter William Arthur	....	....	Waitati
Fairhall, Albert Francis	....	....	Greymouth
Firman, Henry	....	....	Christchurch
Goodwin, Bertram George	....	....	Mapua
Harper, David Neilson	....	....	Timaru
Hesketh, Arthur	....	....	Rotorua
Hill, Walter Stanley....	....	....	Auckland
Horton, Joseph	....	....	Masterton
Just, Bruno Hugo	....	....	Palmerston North
Lawton, Herbert Wesley	....	....	Wellington
Leet, Alfred Walter	....	....	Palmerston North
Leonard, Francis Henry	....	....	Papatoetoe
Martin, Walter George	....	....	Upper Aramoho
Mason, Frank	....	....	Feilding
Mason, William Samuel	....	....	Wellington
Morrison, Edward	....	....	Warkworth
Morrison, John	....	....	Warkworth
McIndoe, George Harold	....	....	Gisborne
Naish, Charles Edward	....	....	Balclutha
Perrott, Richard William	....	....	Napier
Skelhorn, Richard	....	....	Wellington
Sorrell, Charles Benjamin	....	....	Alexandra
Stubbings, Harry	....	....	Gisborne
Tapley, John Franks	....	....	Governor's Bay
Walker, William Henry	....	....	Hastings
Watson, Walter	....	....	Christchurch

Williams, William Richard Lloyd	....	....	Alexandra
Young, James	Christchurch
Yates, Ernest	Auckland

SECTION No. 7.

Hume, Arthur Andrew	Dunedin
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REVIEW OF WORK CONDUCTED BY THE AUCKLAND CITRUS COMMITTEE
FOR THE YEAR ENDING 31ST MARCH, 1929.

Work has been actively carried on during the whole period, by members of the Committee. Mr. Geo. A. Green, the Institute's Organiser, has had charge of the work, with the assistance of Mr. W. H. Rice, in connection with the test area.

Test Area.—This has been selected, and arrangements made with Mr. E. A. Herd, on most advantageous terms, for the planting and working of 1,000 citrus stocks with the varieties approved. Some of these stocks have already been worked.

Citrus Survey.—A very wide survey of the whole situation, as regards citrus culture in the North Island, has been undertaken, and some very valuable material secured, in many directions.

Early History.—The early history of citrus in New Zealand is being investigated, and some interesting information has been unearthed. Amongst other items it has been found that 100 years ago both orange and lemon trees were growing in the Tauranga district. In the Whangarei district and further north, both lemon and orange trees were growing in the early days. Most interesting facts have been secured concerning the sweet orange export from Whangarei forty years ago, which, at that time, had reached quite a large amount, Mr. Dobbie alone shipping south over 6,000 cases in one season.

Classes Covered.—The citrus survey is steadily being carried out, covering lemons in all varieties, sweet oranges, sour oranges, and the Poorman. Many interesting problems present themselves, but the investigations, as far as carried out, indicate that there is a great future before the citrus industry in New Zealand, not only in lemons and marmalade oranges, but in the production of high-class sweet oranges, especially those which can be marketed in the hot weather.

Sweet oranges of excellent quality have been sampled from districts as widely separated as Hokianga, Whangarei, Warkworth, Auckland suburbs, Thames, Tauranga, Gisborne and Taranaki. Unfortunately, many of the varieties that have been planted are seedlings, and others are off types or unsuitable kinds. Authentic data and reliable records are very badly needed as a basis for future work.

The Poorman Orange, so called, is one that has attained to considerable commercial importance both for preserving and as a breakfast fruit. Commercial areas have been located in such widely separated districts as North Auckland, Auckland suburbs, East Coast, Gisborne, and Taranaki. There are several distinct types of oranges growing under the name of Poorman both in New Zealand and Aus-

tralia. This has confused the issues connected with the survey we have in hand. Your committee is satisfied that the original stock of New Zealand Poorman were secured from buds taken from a tree owned by the late Sir George Grey, and growing on Kawau Island. It is stated by Mr. E. Morrison, N.D.H. (N.Z.), late of Warkworth, that this tree was growing and fruiting there seventy years ago and propagating material was secured by his father at that time. This variety, he states, has been in the custody of the Morrison family ever since.

The Poorman appears to have been distributed half a century or more ago by Messrs. E. Morrison, Warkworth; D. Hay & Son, Hobson Bay; and the late C. T. Wren, Mt. Hobson.

Seeds v. Seedless Types.—Having separated the true New Zealand Poorman from other varieties of the same name, our survey, coupled with earlier investigations, has identified at least two or possibly more strains. One—apparently the original—is seedless, others varying from a few rudimentary seeds to a number of fully developed seeds in each fruit.

Many theories have been advanced to account for this variation—such as interpollination; stocks and soil conditions; age of the trees, etc., but as far as investigation has yet gone there is no conclusive evidence that any of these influences are actually responsible for the presence of seeds in some types. Meantime, the commercial planters require as far as possible a seedless type.

Sweet Oranges.—In these we feel there is need for much survey and research work before definite conclusions can be arrived at. It is proved that Navels and Late Valencias succeed well in suitable locations, while St. Michael, Jaffa and Blood have long proved themselves satisfactory. In this connection your committee is investigating the possibilities of other varieties which may be even more suitable for New Zealand conditions than those mentioned amongst these. The Lue Gin Gong, a Valencia Mediterranean sweet cross, from Florida, is described as “the hardest sweet orange in America, and a wonderful late season orange for market purposes.” This has fruited here and is a very promising variety for the summer market.

Pine Apple is another famous Florida orange which, both in Adelaide and New Zealand, has been found exceedingly promising as a late mid-season variety, and a heavy cropper.

The Satsuma (Ooonshiu) types of Japanese mandarins are being found to give good results where tested.

Pomelos.—These and some other varieties of citrus fruits have as yet received little attention, though no doubt they present possibilities for commercial treatment.

Lemons.—New Zealand has long been known as a country where the finest types of lemons can be grown. The leading varieties in cultivation are Lisbon, Eureka, Sweet Rind of the Australians, and Villa Franca. Other commercial sorts which are being tried out include a valuable short-thorned type of Lisbon from Australia, also Genoa, Sicily and Messina, while the Ponderosa and Meyer are two varieties

which have been planted over a wide area. They are hardy, ornamental, and give good promise for home use and for planting in districts where the commercial varieties are frost tender.

Bud Selection.—For a number of years selection of buds has been carried out partially by the nursery trade. This work has been taken under the wing of your committee during the last two seasons, Mr. Geo. A. Green having had charge of the cutting and distribution. The work has been done voluntarily, and the buds have been given freely by orchardists, some 7,000 New Zealand buds having been cut and distributed during the budding season 1928-9. Needless to add that while the buds have been cut from selected trees, owing to the fact that they have been given free, it has not been possible to cut all buds from immediately behind the typical fruits—the ideal method. About 1,000 overseas citrus buds have been imported. These have arrived in varying conditions from very good to dead, according to the packing employed.

Stock Testing.—Little has been done as yet in this connection, but our organiser is now collecting a large volume of data which will be invaluable as a basis for future work. Trees are growing in New Zealand on practically all the stocks used in citrus-growing countries. These will furnish the basis for future observation. Meantime the two stocks upon which the leading commercial groves have been worked, are the sweet orange and citronelle. Much experimental work is needed, however, and it is possible that double working may assist to solve some of the present stock problems with which citrus culture in New Zealand is faced, under its varied soil and climatic conditions within the citrus area.

Wanted, Test Areas.—The investigations, as far as our survey has gone, show the great need of practical citrus test areas where the various problems can be dealt with systematically.

New Zealand Conditions.—We feel sure experience will ultimately prove that New Zealand has climatic and soil conditions over large areas of its North Island coast lines, which will prove most suitable for general citrus culture.

REPORT ON NATIONAL BOTANIC GARDENS.

At the Institute's Conference, held at Christchurch last year, the proposal to establish a National Botanic Garden was further considered. The conference realized that the amount of money involved in establishing a National Botanic Garden commensurate with the requirements of New Zealand must necessarily have a retarding effect on the movement; but the importance of the question was held to be such that urgent appeals should continue to be made to the Government until such time as the Institute's aspirations in this regard have been achieved, and in the meantime the question of establishing a National Botanic Garden Board and a committee to work in conjunction with the curators of the several municipal gardens futhered, the work of the curators to be along the lines of plant and seed distribution within New Zealand and overseas. The Government to be asked to

grant a subsidy to the Institute sufficient to cover the clerical work, postage, and other expenditure that the working of this scheme would involve.

The President of the Institute, Mr. F. J. Nathan, kindly undertook to interview the Prime Minister and the Minister of Agriculture on both questions. A change of Government which took place shortly subsequent to the conference, naturally delayed the putting of this idea into practice. However, a deputation waited on the new Minister of Agriculture a short time ago, when both proposals were placed before him by the deputation. After reviewing the position and urging the importance of the establishment of a National Botanic Garden, and pointing out that New Zealand was practically the only country of standing in which the Government had not expended substantial sums of money in such a project, Mr. Nathan referred to the financial side of the question, and suggested to the Minister that if the necessary money could not be found immediately that the Government undertake to set aside a reasonable amount yearly until such time as a sufficient amount of money had accumulated to enable the National Botanic Garden project to be undertaken.

The matter of the Government granting a small subsidy to the Institute to enable the seed and plant distribution project to be undertaken was also placed before the Minister.

The Minister gave both proposals sympathetic consideration, but in view of the present state of the country's finances, he was naturally unable to make a commitment forthwith. The deputation received sufficient encouragement to warrant the belief that some assistance will be forthcoming from the Government in the near future.

REPORT OF PUBLICATIONS COMMITTEE.

Some time ago the Institute's Editor, Mr. Archey, of Auckland, was, through pressure of other duties, compelled to resign this office. The Executive Council sincerely regrets the loss of Mr. Archey's services in this regard, and wishes to place on record its deep appreciation of the services rendered to the Institute by Mr. Archey and the members of the Editorial Committee of Auckland in connection with the Institute's past publications.

However, in view of the circumstances that have arisen, the Executive Council came to the conclusion that it would be more convenient to all concerned if the Editorial Committee was established in connection with the headquarters of the Institute at Wellington, and acted accordingly.

The Wellington Committee comprises Messrs. Oliver (Editor), Pope, and Hyde.

The matter of publications was considered by the new Committee, and its recommendations were approved by the Executive Council. These recommendations provide for a quarterly publication to be issued by the Institute. The title of the publication is to be "Journal of the New Zealand Institute of Horticulture."

The publication is to be issued in the months of June, September, December, and March, and to contain technical and popular articles

on horticulture and allied subjects, seasonal notes, etc. The first publication, under the supervision of the newly-elected Editorial Committee, has just been produced.

REPORT ON PLANT REGISTRATION.

In consideration of the numerous requests received by the Executive Council relative to the registration of plants and the setting up of a Plant Certifying Board with power to issue awards of merit relative to plants, fruit, etc., the Council set up a small committee to go into the question, and has placed the matter on the order paper for the consideration of Conference.

There are two questions involved in the above proposals. One is merely a plant registration proposition which would be comparatively simple to effect. Under this all that would be done would be the registration of new plants by the Institute, thus having them placed on record, the Institute otherwise taking no responsibility as to merit or otherwise of the plants registered.

The setting up of a Certifying Board with power to grant awards of merit would be a very much wider thing, and would mean a considerable amount of work and expenditure. Consequently the Conference has not only to consider the desirability of setting up a Certifying Board, but has also to consider the question of ways and means both with regard to having the work properly attended to and the meeting of the additional expenditure involved. The whole question is a matter that requires very careful consideration before it is undertaken, and it is understood that the action of the committee already set up in connection with the matter has been in the direction of endeavouring to secure the co-operation, advice, and assistance of the various District Councils of the Institute on the matter.

REPORT ON THE LODER CUP.

All the Horticulture Societies referred to in the competition conditions recommended by the Loder Cup Committee to the Hon. Minister of Agriculture, and approved by him, have announced their willingness to arrange for the Cup to be competed for under the auspices of their respective Societies in due order. Arrangements are being made for the first competition for the Cup to take place in Auckland at a time to be arranged by the local Horticultural Society prior to the end of this year.

SUMMARY OF PROCEEDINGS OF THE SEVENTH ANNUAL CONFERENCE
held in the Auckland University College Hall on Wednesday,
10th July, 1929.

Reports.—The following reports, as printed herein, were received and adopted:

1. Executive (with Statement of Accounts).
2. Examining Board.
3. Citrus and Bud Selection.
4. National Botanic Gardens.
5. Plant Registration.
6. Loder Cup.

Election of Officers, etc.—

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

Vice-Presidents: Messrs. D. A. Hay (Auckland), Dr. T. H. Easterfield (Nelson), Hon. T. K. Sidey and D. Tannock (Dunedin), P. Black (Palmerston North), W. D. Sherratt (Gisborne), J. G. MacKenzie (Wellington), C. E. Foweraker (Christchurch), A. M. Robertson (Hastings), and R. A. Anderson (Invercargill).

Executive Committee: Messrs. J. A. Campbell, Professor H. B. Kirk, T. Waugh, H. Baillie, R. W. B. Hammond, W. R. B. Oliver, F. S. Pope, Wm. C. Hyde, W. T. Goodwin, C. H. Treadwell, H. S. Hislop, W. S. Mason, and G. A. Green.

Honorary Fellows: Sir George Fenwick (Dunedin) and D. A. Hay (Auckland).

Honorary Members: G. W. E. Loder, P.R.H.S., and Professor R. H. Compton, Capetown.

Dr. L. Cockayne.—Conference congratulated Dr. Cockayne on the occasion of H.M. the King having bestowed on him the honour of Companion of the Most Distinguished Order of St. Michael and St. George.

REMITTS DEALT WITH.

1. *Agricultural Education.*—That Conference approve and heartily endorse the attitude adopted by the Hon. the Minister for Education, in respect of agricultural bias to education. (Agreed to).

That the report on the suggested functions and objects of Agricultural High Schools be endorsed. (Agreed to).

2. *Plant Registration, etc.*—That Conference consider the following questions:—

- (a) The question of plant registration. (Plant registration agreed to).
- (b) The setting up of a Plant Registration Board for the purpose of issuing certificates and awards of merit with respect to new varieties of plants, fruit, etc. (Action deferred).

- (c) The setting up of a Pomological Committee for the purpose of determining matters relative to the nomenclature of pome fruits. (Referred to Executive).
- (d) That proceedings similar to those instituted by the Canadian Horticultural Council on Plant Registration be adopted. (Referred to Executive).

3. *National Botanic Gardens.*—

- (a) That the Conference urge upon the Government the necessity of creating a National Botanic Garden, and that the Government be requested to grant a subsidy to those Public Gardens which are now carrying on this work. (Agreed to).
- (b) That the Executive take up the question of a National Botanic Garden with the Government and that they be requested to grant a small subsidy to commence the work. (Agreed to).

4. *Road Beautification.*—That the Dominion Executive draw the attention of other local bodies to the work being carried on by the Great South Road Beautifying Council in Auckland, as well as by the Roads Beautification Association in England, and suggest that they should consider similar concerted action.

5. *Scenery Preservation.*—

- (a) That the action of the Minister in charge of Scenery Preservation in appointing Honorary Inspectors of Scenery Reserves generally, be endorsed and it is suggested that the appointments be increased, and regulations issued for their guidance. (Agreed to).
- (b) That the Dominion Executive request all local authorities and Domain Boards to approve of the Honorary Inspectors so appointed by the Government having authority in respect to the reserves under their control. (Agreed to).
- (c) That in the interests of scenery preservation, water conservation and the protection of the native fauna, this Conference strongly urges upon the Government to make permanent reservation of as much of the native bush as possible along the route of the Te Whaiti-Waikaremoana Road, and to indicate the extent to which the Government proposes to make permanent reservations for the above purposes. (Agreed to).

6. *N.Z. Horticultural Judges' Register.*—That this should be revised and the District Councils consulted in the matter of the revision. (Issue of supplement agreed to).

7. *Publications.*—That the question of publications be reviewed in detail. (Referred to Executive).

8. *Citrus Grant*.—That in view of the progress made by the Citrus Research Committee, the Department of Scientific and Industrial Research be asked to renew the grant for the next three years. (Agreed to).

9. *Institute Cups*.—That in districts where an Institute Cup has been presented for competition the local District Council be urged to secure contributions to supplement the donations already received towards the cost of the Cup. (Agreed to).

10. *Rules*.—That Rule 8 (a) be amended by deleting the words "31st July of each year" and substituting therefor the words "the end of February following the close of the financial year." (Agreed to).

Note.—This is for the purpose of facilitating an annual gathering representing all horticultural interests.

11. *Horticultural Conference*.—That Conference consider the matter of taking steps to provide for future annual conferences of the Institute of Horticulture being held at the same place and during the same week as the annual conferences of the Horticultural Trades' Association and of the Park Superintendents. (Agreed to).

12. *Organisation*.—That the Conference consider how the services of the Institute's diploma-holders can best be utilised in the interests of the Institute. (Referred to Executive for suggestions).

13. That each District Council be urged to commence a vigorous membership campaign as it is essential that the membership of the Institute be materially increased in order to provide funds to enable the Institute's programme to be effectively dealt with. (Agreed to).

14. That all District Councils should be allowed to nominate one member of the Examining Board for the Diploma of Horticulture, and that, if necessary, the rules be amended accordingly. (Referred to Executive).

Other Resolutions.—Conference further resolved to urge the Government to:—

- (a) Establish a Horticultural Research Station, and
- (b) Grant a bonus for the production of dried apricots.

Banks Lecture.—This lecture was inaugurated in 1926 as a recognition of the work of the celebrated botanist, Sir Joseph Banks, who was attached to Captain Cook's first exploring expedition to New Zealand. This year the lecture was given by Professor J. C. Sperrin-Johnson, of Auckland, his subject being "Two Centuries of Botanical Progress (from Linnaeus to Darwin)." The lecture was illustrated by numerous lantern slides and was greatly appreciated by the large audience.

DIPLOMA IN HORTICULTURE (without examination):

"The Institute may, without examination, grant diploma under this Act (New Zealand Institute of Horticulture Act, 1927), to any person not less than forty years of age, who has practised horticulture for not less than 20 years, and who, in the opinion of the Institute, is qualified to receive such diploma."

The issue of Diplomas under this provision terminates on 21st October, 1929.

DIPLOMA IN HORTICULTURE (by examination):

Group C.—Open to those engaged in the practice of horticulture for a period of 15 years prior to 31st December, 1929. Oral examination only. The issue of Diplomas under this provision terminates on 31st December, 1929.

Group B.—Open to those engaged in the practice of horticulture for less than 15 years prior to 31st December, 1929. Full examination prescribed, but certain service qualifications may be waived. The issue of Diplomas under this provision terminates on 31st December, 1929.

Group A.—For students who commenced the practice of horticulture since 21st October, 1927.

All correspondence and applications to be forwarded to

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

HORTICULTURAL SHOWS:

AUCKLAND HORTICULTURAL SOCIETY.

President: Sir Edwin Mitchelson, K.C.M.G.

Secretary: c/o. Box 124, Auckland.

Daffodil Show: 12-13 September, 1929.

Rose Show: 7-8 November, 1929.

Sweet Pea and Gladioli Show: 12-13 December, 1929.

Dahlia Show: 13-14 March, 1930.

Chrysanthemum Show: 17-18 April, 1930.

WELLINGTON HORTICULTURAL SOCIETY.

President: Dr. Arnold Izard.

Secretary: J. G. MacKenzie, N.D.H. (N.Z.), c/o. Town Hall.

Spring Show: 19th September, 1929.

Rose Show: 27th November, 1929.

Autumn Show: 23rd April, 1930.

All shows held in Town Hall, Wellington.

HUTT VALLEY HORTICULTURAL SOCIETY.

President: D. S. Patrick, Esq.

Secretary: A. J. Nicholls, P.O. Box 19, Lower Hutt.

Spring Show: 17-18 September, 1929.

Summer Show: 20th November, 1929.

Mid-Summer Show: 5-6 February, 1930.

Autumn Show: 16-17 April, 1930.

All Shows held in King George Theatre, Lower Hutt.

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