Bulletins Nos 1 to 5

Bulletin is "Roadside Beautification"

Big Bundle

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New Zealand Institute of Horticulture

(Reprinted from "The New Zealand Fruitgrower and Apiarist," Auckland, September 16, 1924.)

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New Zealand Institute of Horticulture

(Incorporated)

THE NEW ZEALAND INSTITUTE OF HORTICULTURE.

SOME OF ITS AIMS AND ASPIRATIONS.

DR. L. COCKAYNE, F.R.S., F.L.S., F.N.Z. Inst., Dominion President.

The New Zealand Institute of Horticulture is now firmly established. Local branches, the outcome of enthusiastic public meetings, have been set up in the chief centres, their members (all of whom are likewise members of the Institute itself) including a large proportion of the Dominion's foremost horticulturists, both professional and amateur, while pure science, an essential for horticultural advance, is represented by a number of the leading scientific men of this country. But an army cannot consist of officers alone, and in order that the Institute may fulfil those high aims, for the carrying out of which it has been constituted, a large membership is essential. Though these aims are embodied in its constitution it seems well in this first bulletin of the Institute to deal briefly with some of them, and at the same time to set forth what —in my opinion—should be some of its aspirations.

Foremost amongst the immediate aims stands forth the matter of horticultural education. This was the subject of an interesting discussion at the recent meeting of the Dominion Council, and it was arranged that a report should be furnished for consideration in about a year's time. This may seem too far-distant, but the subject is of extreme complexity, and demands the most careful consideration. As for such education, it has more than one goal. First comes the training of candidates (men and women both), for the gardening profession—a profession equal in status to other learned professions, embracing, as it does, many subjects for close study and much practical experience, and demanding no small amount of natural ability and love for the subject. Day by day the demand for highly-trained horticulturists increases, and there is little fear of the supply exceeding the demand for many years to come, bearing in mind the requirements of nurserymen, municipalities, commercial fruit-growing, forestry and private employment. The final aim would be a degree in horticulture at the University, but in such a degree practical knowledge must occupy a high place.

Next, if that vegetable food supply, on which the health of the people so largely depends, is to be both sufficient and of a high standard, and if the homes of the people are to be made beautiful, as they should be, with trees and shrubs and flowers, then horticulture should be taught to all. In every primary and secondary school throughout New Zealand the art should be intelligently taught, and interwoven with such instruction would be many of the fundamental facts of nature. At present the cry is "teach agriculture." Should not it be rather "teach horticulture?" Indeed is not the agriculture of the small farm—"intensive agriculture" as it is called—horticulture pure and simple? A land of gardens, a land of ardent gardeners, would be a land of great prosperity and infinite content!

The education of professional and amateur is not all, there is also horticultural research, in its fundamentals agricultural as well, and, for this, special training combined with great natural ability is required.

Besides such direct instruction as indicated above, the members of the Institute can do much good work by personally coming into touch with those who wish to improve their gardens, but lack the necessary knowledge. An occasional hint, a kindly word, a little timely assistance may lead the novice to become a gardener. And the members of the Institute should form a true brotherhood banded together in a common love of gardening.

Finally, in this matter of education, the Institute must disseminate horticultural knowledge by means of its publications; indeed, the issue, from time to time, but eventually at regular periods, of a bulletin, or journal, containing original papers, summaries of important matter published elsewhere, and perhaps answers to questions on horticultural matters, is a most important function of the Institute. Few things will more advance horticulture in this country than reliable

articles devoted to the many phases of New Zealand gardening, but it must always be remembered that few articles can be of general application in a country offering so many diverse conditions for plant-life.

At present there is no real botanic garden in New Zealand. By such I mean an open-air museum of living plants so arranged that they can be conveniently studied with each plant clearly, but not obtrusively, labelled with its accurate scientific and popular name (if there be one) and the region of its origin. Above all such a garden could be equally a place of beauty--the aesthetic side of horticulture should never be neglected. Now, the latitudinal range of New Zealand, and the uneven distribution of the rain fall, make it impossible to have one truly satisfactory garden, even were such desirable, certain classes of plants growing well in one place which, at best, grow badly in another. In the cities and some of the larger towns there are admirable public gardens, and without altering their arrangement to any marked extent they could readily be transformed into true botanic gardens—as is being done by Mr. Tannoch, in Dunedin. One thing in this connection stands out clearly; that is that all the native plants capable of being cultivated in these gardens should be brought into them without delay.

This matter of accurate labelling of plants in public gardens leads me to another highly important function of the Institute—the establishing of a correct nomenclature. Many names used in New Zealand horticulture date from the time when there was no generally recognised rules, but this state of affairs has ceased with publication of the International Rules of Botanical Nomenclature in 1906. These rules have led to a good many changes in names of species, and it is high time that these be adopted in horticulture and the present misleading confusion reviewed. The garden names of fruits, vegetables and florists' flowers is another and vastly more difficult matter than in the case of species; in fact, in many instances it is impossible to find the original name. But this can be overcome by coining new names which will have a general New Zealand application. It is not so much getting the correct name—except for species—which counts, but there being but one name for each garden race of plants, such a name to be of universal use throughout the Dominion. Uniformity in botanical nomenclature is a matter of no small monetary importance. It is urgent, then, that a Nomenclature Board, as suggested in the constitution of the Institute, be established as soon as possible.

Besides the aims of the institute already discussed there are many others, but for these I must refer the reader to its constitution. The first aim alone, if lived up to, would amply justify the existence of the institute reading as it does: "To encourage, foster and improve every branch of horticulture." This wide aim may be taken as the first of my aspirations, but to it I would add, "so as to make the institute indispensable for the welfare of New Zealand." This may seem overdrawn, but one has only to consider what horticulture means for a country both from the viewpoint of supplying in profusion the fruits of the earth and in glorifying the land with woods, avenues, groups of trees, and the choicest hardy flowers the world can furnish. Man, equally with all forms of animate life, is greatly affected by his environment, and the more beautiful his surroundings—his cities of noble architecture, with spacious parks, shady promenades, and gracious gardens—the better citizen must he be. And when we consider our climate, so mild in comparison with that of northern lands, what wide scope is there for the gardener's art; what opportunity for creating a national horticulture in character truly New Zealand, its material not only the floral wealth of all temperate and even subtropic lands, but that which the primeval vegetation of this favoured land of ours can supply.

These indigenous plants are prized far beyond the confines of the Dominion. Unfortunately the greater part tolerate but little frost. It should not be difficult by means of hybridism to create more hardy races suitable for an overseas trade. A strain of Ranunculus Lyallii (mountain lily), easy to cultivate; hardier veronicas, with larger, more brilliantly coloured flowers; readily-grown races of yellow or bronze forget-me-nots—these suggest themselves at once; but for the hybridiser there is ample material.

Hybridising is rather the application of an art than true research. On this head one can expect no finality, one discovery leading on to another. Foremost, at the present time, comes the need for research in pomology. Plant and animal pests are many. To ward off their attacks is one of the main occupations of the fruitgrower; his weapons sprays and oils or natural enemies of the insect blights. These, at best, are but makeshifts. When once science

elucidates all that a tree can tell about itself—nay, long before such perfection of knowledge is reached—the true reasons for the attacks of blights will be known and the full meaning of the relationship of these organisms to the tree, and with this knowledge would come truly blight-proof trees or the methods of attack would be devised on more secure lines.

The intensive study of the living tree —fruit tree or forest tree, it is much the same—by the present-day methods of plant physiology is urgently demanded; then, later, better methods for such research some genius of the future will devise, so that slowly but surely will those secrets of Nature be disclosed which will revolutionise orchard methods.

The encouragement of such pure science as may lead to these hoped-for results is by no means the smallest duty of the institute. We have in this country excellent University colleges, with chairs of science worthily occupied, but the occupants are there solely to teach. Cannot this institute rouse up public feeling as to the value of research, so that a demand will be made for chairs of science to be established, the time of the occupants to be wholly devoted to research? Recently Sir Alfred Yarrow, F.R.S., donated to the Royal Society of London £100,000 to be used for such purposes as the society should see fit, and the income from that sum, together with that of other large sums left to the society by will, is being used for the establishment of three chairs the occupants of which are to devote their time to such research as they think fit.

In this short article I have indicated briefly a few out of many of the aims and aspirations of the New Zealand Institute of Horticulture. But deeds, not words, are alone of moment, and whether the institute shall become famous far beyond the confines of our country, or sink into obscurity—better this than leading a commonplace existence—lies with the members themselves. Knowing so well the enthusiasm of these foundation members, and their belief in the movement they themselves have inaugurated, surely I am justified not in an aspiration merely, but in a belief that the success of the institute is assured.

PLANT DISEASE LEGISLATION AND PLANT IMPORTS.

AN ANALYSIS OF EXISTING PRINCIPLES.

At the recent annual conference of the New Zealand Institute of Horticulture the question of plant quarantine was touched upon. A resolution was carried impressing upon the Government the necessity for plant quarantine in order to prevent further importation of injurious insect and fungoid pests and diseases. This big question is bound to engage the attention of the Institute in the future, and for that reason it will be interesting to know something of the history of plant disease legislation throughout the world. The following statement on the subject was made by Mr. H. V. Taylor to the botanical students at the Imperial College of Science last year, and is reprinted from "The Fruitgrower" (England):—

When, in the distant past, travellers left the shores of this country to establish colonies in varying parts of North America, they took with them seeds and tubers and roots, and the new country became the richer by growing the best types of British plants. This country lost nothing by such action. Similarly, at one time it was the fashion for captains of ships to collect seeds, tubers and roots on their travels for propagation at home, and by such means many fresh plants were added to the list of British crops, of which perhaps the potato is the most striking example.

TRADE HANDICAP.

These early settlers found no restrictive measures to hamper the importation of plants into North America, nor did the captains of British ships have to comply with any plant health measures.

Amongst travellers the desire still exists to add to the flora and food crops of their own country; and, in addi-

tion, large industries have been created with businesses concerned with the exporting of the country's seeds, plants, and roots, and the importing of others new to the country or necessary to maintain the country's stocks to better advantage, either in number, constitution or cropping capacity. Yet it is not always possible to effect this transference because of restrictions, quarantines and orders. Irish and British potatoes are now refused admission into Canada and into the United States of America, and no plant would be allowed past the North American ports unless accompanied by a health certificate—its passport, as it were. Even then the plants may have to go through a quarantine station and pass some inspection service.

North America is not alone in taking these safeguards, for plants arriving at ports of this country must be accompanied by their health certificate, and successfully pass a severe inspection test if they are to gain access or entry. Such facts clearly show the change that has taken place in the ideas of mankind concerning the importance of plant diseases and his changed methods for regulating plant imports. These methods, unfortunately, vary for different countries, and such variations become perplexing and troublesome to traders, and prove a source of irritation to all plant collectors. No doubt the effects of plant diseases are not uniform throughout the world, being mild in some countries and severe in others, and the degree of public concern for such matters is largely influenced by the plant losses; thus differentiation of ideas must be expected as between countries.

THE FIRST CONFERENCE.

In Europe the first serious trouble that drew international attention occurred with the vine through the ravages of the Grape Phylloxera—an American pest—and in 1881 a meeting on the Continent was held, at which most European countries were represented. At that time no attempt was made to deal with the matter generally or to lay down great guiding principles for the future; but, nevertheless, the conference succeeded in reaching an agreement, which was finally embodied and published as the Phylloxera Convention, which is still in force at the present day. Because of this pest, and also the San Jose Scale in America, some of the European countries, and notably Holland, France, Germany, Austria and Switzerland, issued orders prohibiting the entry into those countries of all plants from America, and thus the policy of prohibition originated in Europe, and not in America, as is popularly supposed.

Between 1881 and 1914 much advancement of knowledge must have been made, and a large increase in transport by land and water, yet history does not record any further important International conference on plant diseases until 1914, when the Rome Convention was drawn up. By that time many new and serious diseases, etc., had established footings in fresh countries, and by their manifest ravages had indicated the danger to which any and every country rendered itself liable in leaving free and unregulated importation of plants to all and sundry, and consequently it is not surprising that the delegates to the Conference tried to grapple more fully with the subject, and to lay down practical working measures for the future.

RESULTS ACHIEVED.

Clearly trade would be affected, and each country exhibited some anxiety for its own particular exports, and in several instances whole categories of plants (potatoes, all bulbs, fruit and vegetables, and field produce) were ruled out of the Convention, and for these contracting countries were to give free entry. No plants were to be prohibited from entry altogether, but consignments of other plants and cut flowers were to be accompanied by health certificates certifying the plants as free from named insects and diseases. The named diseases were to be of an infectious nature and non-resident in the country requiring the certificate.

The Convention thus carried international matters a stage further, and has been adhered to by some countries; the number might have been larger, but for the outbreak of the war, which to some extent prevented the Convention from fully materialising. England, Scotland and Ireland, and the Dominions and Colonies of the British Empire, remained outside the Convention, and America was opposed to the adoption of any one form for the world.

The Rome Convention deals with but a few of the problems relating to the interchange of plants, and leaves many untouched. Countries adhering to it are prevented from prohibiting the entry of any plants or from excluding plants highly infected with common diseases. Yet it has its advocates, and certainly must be regarded as the serious policy for the chief Continental countries of Europe.

Great Britain, as has been previously mentioned, did not adhere to the Rome Convention at the time, nor has it since drifted closer towards it, as is illustrated by its actions. In 1877, when Parliament passed its Destructive Insects and Pests Act, it gave wide powers for the control of the pest known as the Colorado Beetle—which powers were extended by the Act of 1907 to all other pests and diseases.

Under the Act the issuing authority was given powers to prohibit or regulate the landing in Great Britain of any agricultural or horticultural crop, and it is safe to conclude that our early legislators had sufficient imagination to conceive that situations might arise when prohibitive regulations might prove desirable. Under the early American Gooseberry Mildew Orders, issued by the Ministry of Agriculture, the import of gooseberry and black currant bushes was prohibited, and thus, in a small measure, this country was drifting away from the line followed by the Continental countries of Europe; but it was not until 1920 that a definite policy to regulate imports into Great Britain began to take any form. This finally was settled and given effect to in the Destructive Insects and Pests Order of 1921. The terms of this Order showed that the British policy differed from the American and also from the Continental, and was, in fact, a new line of procedure. No healthy plants were prohibited entry, no permits to import were necessary; but it was laid down that consignments were to be accompanied by a certificate specifying that the plants were healthy and free from stated pests, most of which were non-resident in Britain. Consignments unaccompanied by this guarantee were to be inspected before distribution.

In broad terms, then, Britain was ready to accept all clean and healthy plants and plant produce, but not produce bearing disease. This policy differs somewhat from the Continental policy, and, as will be shown later, materially from the policy adopted by the United States of America, though but slightly from the policy now adopted by the Dominion of Canada.

The United States of America may have been considering import regulations for many years, but it was not until 1912 that Congress passed its first law on this subject. Potatoes and pines, and bushes of Ribes and Grossularia from Great Britain, were prohibited by order right away, and thus early it became evident that stern measures were to be the American rule. Other plants were admitted under permit, if accompanied by a general health certificate to the effect that the plants, where grown, were kept in a healthy condition. The imported plants would be further subject to inspection at the American ports before distribution.

PATHOLOGICAL SERVICES.

This course was recognised as a reasonable one, that could well be met by European countries through the establishment of recognised plant inspection services in each country to make the inspections and to issue the health certificates. The European countries did, in fact, organise their resources to meet this Act, and a gradual improvement proceeded during 1913 and the early part of 1914, when, with the outbreak of the European war, further organisation was checked. In spite of the improved organisations, and almost before the war had ended, the Federal Horticultural Board of the United States of America, in 1918, held a public hearing to consider the need for additional restrictions on the importation of nursery stock, and, at the hearing, the Department of Agriculture for the U.S.A. stated their belief that "the policy of practical exclusion of all stock not absolutely essential to the horticultural, floricultural, and forestry needs of the States was the only one that will give adequate protection against additional introductions of dangerous plant diseases and insects." Following the hearing, a new quarantine, the famous No. 37, was issued, prohibiting the general importation of nursery stock and other plants and seeds, but permitting the importation of a few categories under special conditions, as follows:—

QUARANTINE 37.

(a) No restriction on the entry of fruits, vegetables, cereals, and other plant products imported for medicinal food or manufacturing purposes, nor on the entry of field, vegetable, and flower seeds.

(b) The importation of the following from countries which maintain inspection, to be followed under a permit from the Federal Horticultural Board: (1) Lily bulbs, lily of the valley, narcissus, hyacinths, tulips, and crocus; (2) stocks, cuttings, scions, and buds of fruits for propagation; (3) rose stocks for propagation, including Manetti, Multiflora, Briar Rose, and Rosa Rugosa; (4) nuts, including palm seeds, for propagation;

(5) seeds of fruit, forest, ornamental and shade trees, seeds of deciduous and evergreen ornamental shrubs, and seeds of hardy perennial plants.

In addition to the necessity for a permit, the regulations provided that these classes of plants should only be allowed entry when they are free from sand, soil, or earth; and, further, that each consignment must be accompanied by a certificate issued by a duly-authorised official of the country of export, to the effect that the plants, etc., had been thoroughly inspected, and found, or believed to be, free from injurious plant diseases and insect pests.

Amendments to these regulations have been issued from time to time, as, for example, No. 14, which provides for the importation under special permit of limited quantities of nursery stock not included in the foregoing list, for the purpose of keeping the country supplied with new varieties and necessary propagating stocks.

Here, then, is the acceptance by an important State of a policy quite different from that of the Continent or of the British Isles, the basic principle of which is prohibition, with limited concessions to allow entry to small quantities of new varieties. No consideration was taken to keep alive international trade in horticultural plants, and the American citizen was asked to restrict his desire to the plants that could be produced by American nurserymen. This view was new to European legislators, and came as a shock when first announced. From 1918 onwards the quarantines have been drawn tighter, and the problem has recently been put on another plane by the issue of an order in which fruit and vegetables are treated with suspicion, and can only be imported into the U.S.A. by special permission.

INDIVIDUAL POLICIES.

The Colonies and Dominions of the British Empire have no agreed or uniform policy on which legislation is based. Each one seems to have pursued that individual course which was thought to suit the particular requirements of the country. Some lean to the British method, others favour the American policy. With such varying views and policies, plant disease legislation must naturally take different forms, and express itself in different ways; that does not mean, however, that the matter is in a state of confusion, but rather that the needs of countries are so different (some are, in horticultural produce, exporting countries, some importing, whilst a few are self-supporting), and that, for the present, legislators are only willing to consider the immediate needs of their own countries, and are not able, or willing, to forego this claim of individualistic action in favour of some common policy.

In European countries, the need for common action is often advanced, and many international conferences have been held, at which the principal subject for discussion has been that of legislation governing plant imports. At the moment, no form of policy has been advanced that receives the support of all; but the general desire to avoid "general prohibition" has manifested itself. If each country accepted the view now held by the United States, then each one would proceed to prevent further importation of plants and plant produce, and international trade in horticulture would cease, and in time each country would depend entirely on the plants within its own borders. Even apples, bananas, pineapples, and vegetables would be subject to inspection before entry. The roads to further progress would be narrowed considerably, and mankind would need to curb his desire for new plants and fresh fruit all the year round. There would always be the chance that some potential important food crop would be kept out. Fortunately, this view does not find favour in most countries, and legislators appear to be steadily approaching the policy based on free importation of all clean produce, provided it is accompanied by a health certificate. New legislation on these lines is being advanced, and the general tendency is towards the adoption of a common plan, though it may take some time before that plan materialises in its entirety.

Fortunately, most thinking men have learnt that the policy of any one country cannot be determined in these days without consideration of its action on others. They recognise that injurious insects and plant diseases might be kept out if prohibition were practised, but agree, in the general interest, that it is advisable to refrain from interfering with trade beyond devising measures to regulate the imports to reduce these risks to a minimum. Similar action should be taken by all, for it is not possible for any one country to adopt a prohibitive policy without exercising an influence on other countries.

The action created by prohibition may readily cause other countries to adopt a "prohibitive" policy, and by reaction cause its own people to turn round and curse its own "prohibitive" policy.

We shall probably see the prohibition policy pushed a stage further in the United States, and its embracement by a few other self-supporting or exporting countries, before this reaction sets in, but in the end public opinion will prove sufficiently strong to sweep aside these varying ideas and selfish policies, and lead to the holding of world-wide conferences for the drawing up of articles for common action.

DOMINION NOMENCLATURE.

IMPORTANT PROPOSALS.

A meeting of the Executive Committee of the New Zealand Institute of Horticulture was held on the afternoon of September 17 in the Public Library, Wellington. There were present: Dr. L. Cockayne, F.R.S., in the chair; Professor Peren, the Rev. J. G. W. Ellis, Messrs. H. Baillie, C. H. Treadwell, J. G. Mackenzie, and George A. Green; and, in addition to the members of the executive, there were also present: Messrs. A. H. Cockayne, Director, Fields Division, Department of Agriculture; J. A. Campbell, Director, Orchards Division, Department of Agriculture; A. W. Hamilton, W. T. Goodwin, A. W. Buxton, T. C. Brash, and B. C. Aston, chemist, Department of Agriculture. Apologies were received from Messrs. F. Waugh, L. McI. Ellis, F. R. Cooper, and Professor H. B. Kirk.

In his opening address, the president said: We are met to-day to consider a question second to none in the aims of our Institute—the securing of accurate and readily-applied nomenclature for New Zealand horticulture. At present it is largely a matter of everyone doing as he pleases, the same plant being frequently known by different names, and perhaps none of them the right one, or the same name being applied to more than one plant. Obviously such a state of affairs is not only extremely bad in itself, but it undoubtedly means a very considerable monetary loss yearly to the Dominion. Now, if our Institute can bring about a remedy it will achieve a great and notable national piece of work, both economic and scientific. And it is only such an Institute which can attempt this hoped-for achievement, for its members include most of the men who can take a hand, and others not our members at present can also be invited to assist in this fundamental work.

First of all, it must be pointed out that to make our plant-nomenclature what it should be is no easy matter. To begin with, there are two entirely different classes of plants in horticulture, namely, those which, though in gardens, occur wild in some part or other of the earth, and secondly those entirely of garden origin. The first have already their correct names, if we only knew them, but while the latter had originally, for the most part, a valid name such has been lost in no few cases, and it will frequently be impossible to find it again. This arises from the fact that while wild species are provided with names according to a definite system, and such names published with descriptions, purely garden varieties have no such systematic name, and very often, perhaps, no description is published, or if published is not sufficiently precise to be made use of in identification. What, then, can we do to set our horticulture nomenclature in order?

First of all, I would suggest that committees be composed of those versed in the names of distinct classes of plants to be set up. Thus a committee can be selected, made up of those accurately acquainted with systematic botanical nomenclature, and to this committee would be assigned the task of finding the correct names for the species of trees, shrubs, herbaceous perennials and annuals—using these terms in their botanical sense. For the plants of garden origin—fruit trees, vegetables, cereals, florists' flowers, etc.—a number of committees will be required. Having got together such committees it is necessary to have a general committee whose business would be to draw up special rules of nomenclature as a guide for the committees and in order to secure uniformity. I have pointed out that

in the case of plants of garden origin it will not infrequently happen that either no valid name can be found, or that no agreement can be arrived at. In such a case I say, unhesitatingly, that a suitable name will have to be invented, and that our Institute must have sufficient power to make that name recognised throughout the Dominion, and so indeed for all names the Institute's dictum shall be final.

Of course, permanent "types" will be wanted. With species dried specimens will serve, but it would be better if in certain gardens these "types" could be grown, and, of course, the various botanic gardens of our cities suggest themselves at once, each to grow the plants best fitted for its climate. As for forest trees the nurseries of the State Forest Service seem to be capable of meeting the case when specialised specimens are planted true to type and retained. And with regard to fruit trees and vegetables, surely the Department of Agriculture can provide necessary gardens to meet all requirements.

These suggestions, or others which appear better, if acted upon will only slowly produce their fruits, but this is no bad thing, since greater accuracy will be secured. Each fixed name, however, will be a benefit and as name is added to name the conclusion will not seem so far distant. Once nomenclature is fairly well standardised, then it seems to me the institute might undertake, for a charge, to see that Nurserymen's Catalogues are accurate and uniform. Even now a good deal might be done in that direction with regard to spelling, the use of capital letters and so on, and the alteration of names obviously incorrect."

At the conclusion of the president's address, Mr. J. A. Campbell (past president) said he agreed that the work of nomenclature should take first place in the programme of the institute. He supported the carrying out of the scheme outlined by the president.

Mr. A. H. Cockayne (Director of Fields Division) said he viewed, as one of the functions of the institute which would be of the very greatest importance, the standardisation of the names of both plants and animals. This standardisation should, so far as plants were concerned, not be restricted to garden plants, but should finally embrace all plants that grow in New Zealand. The task was a large one, and would take years to complete. That was no reason, however, why a start should not be made as early as possible. It would clearly be necessary to divide the work up into a large number of sections, the smaller and more circumscribed the better, so that some sections might be completed at an early date, and then only need occasional revision. He would like to point out that the mere production of names would not take one very far unless there was some ready means of fixing the identity of any plant when occasion demanded. That must not be lost sight of by the institute, and the necessity of having the equivalent of type material must be patent to all. So far as botanists were concerned type material consisted nearly always of dried specimens not always applicable in agricultural and botanical practice. Nevertheless, the institute should make use of this practice wherever practicable, and posses actual type collections to which reference could be made. Arrangements no doubt could be made with institutions to look after such material until the time arrived when the institute could do so. The actual procuring of such type material so far as it was possible and practical should be an obligation on any of the committees that were set up. With regard to many plants of agricultural and horticultural importance, dried material or models or drawings were of little value—the actual living plant being necessary to refer to. This point should be carefully considered by the committees: That in their lists, so far as possible, it should be stated where the actual type plants were growing—special emphasis being made of the fact where such plants could be found in public institutions. The institute should encourage the establishment of type lving collections wherever possible, and the Forestry Service, Agricultural Department, Agricultural Colleges, and public gardens should prove of great value in this respect. So far as the Fields Division of the Department of Agriculture was concerned, it was prepared to assist the institute so far as it was able in the carrying out of the work of the standardisation of names.

Other members endorsed the general principles outlined.

COMMITTEES SET UP.

On the motion of the Rev. Mr. Ellis it was agreed that a committee be set up for the purpose of "arranging for a correct nomenclature for Dominion horticulture in its widest sense."

The following committees were elected:—General Committee on Nomenclature. This committtee to draw up the necessary rules: Messrs. A. H. Cockayne, B. C. Aston, W. R. B. Oliver, Professor

J. A. Campbell (convener), T. C. Brash, Peren, and Dr. L. Cockayne. Species Committee: Messrs. W. R. B. Oliver, B. C. Aston, Dr. H. H. Allan (Fielding), and Dr. L. Cockayne. Animal Pest Committee: Dr. Tillyard (convener), Messrs. D. Miller, and G. V. Hudson. Cereals Committee: Dr. F. W. Hilgendorf (Christchurch) and Mr. A. H. Cockayne, with power to add. As the work progresses, sectional committees will be appointed, consisting of experts in their various departments to deal with each class of plant.

Before the work is completed, a very large number of highly specialised committees will be at work, each working on a very restricted list of subjects. The matter of drawing up rules and nominating other committees will be undertaken by the General committee, who will carry out the arrangements and then report to the executive.

NEW ZEALAND INSTITUTE OF HORTICULTURE

SECOND ANNUAL CONFERENCE

The second annual meeting of the Institute of Horticulture was held at the Dominion Farmers' Institute, Wellington, on August 5. Mr. J. A. Campbell, president, occupied the chair. The following delegates and members attended: Dr. L. Cockayne, F.R.S., Messrs. T. Waugh, A. W. Buxton, W. T. Goodwin, John Bennett, R. Waters, E. C. Jack, John G. Mackenzie, F. S. Pope, C. H. Treadwell, T. F. Conway, F. C. Brash, Colonel J. Pow, P. Black, A. R. Entrican, A. B. Webber, William C. Hyde, Geo. A. Green, A. Harris, M.P., T. K. Sidey, M.P., Rev. J. G. W. Ellis, Dr. Charles Chilton, R. H. Hooper, Professor Peren, and Professor Thomas H. Easterfield.

The Hon. W. Nosworthy, Minister of Agriculture, expressed his thanks to members for electing him to the position of patron of the institute. It was needless to say that he recognised that they had great work in front of them, and he was glad that the time had come when they could take the forward step now proposed. There would now be a body to which growers could appeal on all questions in connection with plant life, including the true nomenclature of plants. The institute would be the court which will give judgment on the classification and names, not only of shrubs and trees, but also of fruit and vegetables. There had been a good deal of confusion in respect to the proper names of certain varieties of fruit and vegetables—potatoes, for instance, not to mention numerous other products of the soil. The society would be able to assist in determining the best varieties, and that was a class of work which was very much needed. The institute would also forward the interests of agricultural education. The Government, he was pleased to say, had been able to make a small grant, as a means of helping the organisation to make a start. He did not know how long that assistance would continue. As a member of the Government and also as patron of the institute, he would be only too pleased to do what he could for the institute. The officers of the Department of Agriculture would be only too pleased, he was sure, to lend their aid in every way possible. He wished the institute every success, and he hoped, if he had the pleasure of meeting them again in twelve months' time, that the organisation would be well established.

The president said that members very much appreciated the encouraging words of the Minister, and he was sure the Minister would assist them as far as he possibly could. As had been said, the institute, if successfully launched and maintained, would be of immense value to the horticultural interests of the country. To extend and carry out the activities of the institution throughout the Dominion would involve considerable work. They had an active, progressive campaign in hand. There were numerous things which could be well done by the institute, but such things could not be all attempted and undertaken at once. Their idea at the present time was to formulate a programme which would enable them to get right away to matters of importance. In the meantime, it was a question of establishing the organisation, and of enlisting the moral, finan-

cial and practical support of the general public. The Executive Committee that morning had approached Dr. Cockayne with a request that he accept the appointment of honorary botanist of the institute, and that gentleman had acceded to their request. The president asked the conference to confirm the recommendation of the Executive Committee. (Applause.)

Dr. Cockayne replied that although he had had quite a number of honours conferred upon him, there was none that he appreciated more than to be made honorary botanist of the New Zealand Institute of Horticulture. He looked upon horticulture as a splendid art—in fact, it was one of the greatest tests of civilisation, the degree to which horticulture had reached, and he trusted that the society would be the means of bringing about a distinctive national horticulture for New Zealand. He would do his best to creditably fill the position to which he had been appointed, and it might be that his slight knowledge of plants might be of benefit in connection with nomenclature, and also in other ways. He again thanked members for the honour they had done him.

The President said he had much pleasure in welcoming members to the annual conference. They were associated with a very important movement, and one that should be of immense value to the horticultural interests of the country. He acknowledged their indebtedness to the Nurserymen's Association, and paid a tribute to the valuable work done by Mr. George A. Green in connection with the foundation of the Society.

A number of apologies for non-attendance were read, and letters were also read from the Hon. Sir Heaton Rhodes, Minister in charge of the Forestry Department, and Mr. T. D. Lennie, president of the New Zealand Association of Nurserymen, expressing strong support. The Minister of Education, Hon. C. J. Parr, also wrote heartily supporting the movement.

PRESIDENT'S REPORT.

The President submitted the following report to the conference:—"We have pleasure in submitting the following report for the period ending March 31, 1924, with an interim report to end of July, 1924:—

"The Institute is now a registered body and has enrolled over 200 members scattered over the Dominion, and in addition the following bodies have already decided to affiliate: Teviot Fruitgrowers' Association (Bud Selection Committee), N.Z. Association of Nurserymen, N.Z. Fruitgrowers' Federation, Ltd., N.Z. State Forest Service, Tauranga Citrus Association, Auckland Citrus Growers' Association, Ltd., while several other bodies have the matter under consideration.

"Since registration some five District Councils of the Institute have been formed. These are Dunedin, Christchurch, Manuwatu, Auckland and Wellington. The hon. secretary has continued to give a great deal of his time to organising work, and addresses have been given in various centres from Whangarei in the North to Riverton and Invercargill in the South. Many leading men are interested both practically and educationally and have identified themselves with the movement. Though small, the promise of £150 on a £ for £ basis to help the organising work for this year is welcome, and will prove of considerable assistance.

"The bud selection work as applied to apricots is assuming considerable proportions, upwards of 60,000 buds having been cut and distributed to the nurserymen under certificate as to correctness of type, etc. To-day most of the apricot trees sold are from this certificated wood. A start is now being made with citrus selection and other fruits will follow as time and opportunity permit.

"We suggest that for the coming year the work now in progress should receive all the assistance possible; that the effort should be continued to enrol members and get affiliations; that an effort should be made to assist the horticultural societies to start a Federation; that a scheme be prepared with a view to something practical being done educationally in connection with horticulture.

"We believe that the Institute now started will steadily grow and become a power in the Dominion both aesthetically and commercially. The Committee has worked well together."

Dr. L. Cockayne, F.R.S., was appointed honorary botanist of the Institute.

ELECTION OF OFFICERS.

The election of officers resulted as follows:—President, Dr. L. Cockayne, F.R.S.; vice-presidents, Professor T. H. Easterfield, Sir James Gunson, Professor Kirk, Dr. C. Chilton, Messrs. J. B. Harcourt, F. J. Nathan, T. K Sidey, M.P., A. H. Shrubshall, A. R. Ragg, T. C. Brash, J. H. Wayth, junr., P. Black, T. D. Lennie D. Hay, D. Tannock, A. W. Buxton) all vice-presidents to be ex officio members of the executive); Executive Committee,

Professor G. S. Peren, Messrs. T. Waugh, C. H. Treadwell, J. G. Mackenzie, Phillips-Turner, F. R. Cooper and Rev. J. G. Ellis.

HORTICULTURAL EDUCATION.

In the place of remits 1, 2, 3, 4 and 5, the following recommendation of the Executive Committee was moved:—"That a Dominion Educational Committee, consisting of three members, be appointed to obtain from an Educational Committee to be set up by each District Council, a report and recommendation as to the best means to be adopted to promote horticultural education in the primary, technical and secondary schools, and in the university colleges, and after considering these district reports, to submit to the Dominion Council a report and recommendation on the whole subject, both the Dominion and district educational committees to have power to add to their numbers, and to co-operate with non-members of the institute as non-members of the committee."

An amendment by Messrs. A. W. Buxton and J. Bennets, "That the Dominion Educational Committee be extended to five," was put, and lost.

The motion, as recommended by the Executive Committee, was then carried.

Moved by Dr. Chilton, and seconded by Professor Easterfield: "That the Dominion Educational Committee consist of Dr. Cockayne, Professor H. B. Kirk and Mr. P. Black, with power to add."—Carried.

THE OFFICIAL ORGAN.

It was resolved on the motion of Dr. Cockayne, and seconded by Professor Easterfield, that the offer of the Brett Printing and Publishing Co., Ltd., to make "The New Zealand Fruitgrower and Apiarist" the official organ of the institute be accepted, subject to the final arrangements being approved by the president and the executive; the Auckland Council to appoint a Publications Committee to supervise the matter from the institute published in "The New Zealand Fruitgrower," and such a committee to include Mr. Archey curator of the Auckland Museum.

PLANTS FOR CERTIFICATION.

Remit.—"New plants submitted to the New Zealand Institute of Horticulture, Inc., for judgment, be referred to the District Council in whose territory the plants are being grown. They, after keeping the plants under observation for twelve months, send in a full report to the Dominion Council with a sample of produce for consideration at the annual meeting. (This report should include a detailed description of an average typical plant and its characteristics, the environment in which it is grown and notes on the season, also the opinion of those who have carried out the visits of inspection, also again, official photos of typical specimens for publication and filing.)"—(Executive).

Remit.—"That conference consider the question of appointing a Dominion Certification Board, with committees for dealing with each class of plant, in each of the four centres."—(Executive).

These remits were referred to the Executive Committee.

PROTECTION FOR THE HYBRIDIST.

Remit.—"That a grower shall be entitled to register the name of any new plant (fruit, vegetable, flower or shrub) after it has been approved by the institute's experts, and that he be entitled to the same protection as under the Patents Designs and Copyright Act, for a period of five years."—(Manawatu).

It was resolved that the remit be referred to the executive for further consideration. It was stated that the Registrar of Patents had expressed the opinion that the carrying out of this remit would be a violation of the Patents Act, and that further legislation would be required to give effect to the proposal.

BUD SELECTION AND PLANT IMPROVEMENT.

Remit.—"That the bud selection work now in progress in connection with the apricot and the citrus fruits be approved, and that such assistance as may be possible be given to the movement, with a view to selection work being widely extended as opportunity offers."—(Executive).

The remit was adopted, and it was resolved, on the motion of Mr. Geo. A. Green, seconded by Mr. T. Waugh: "That the work of carrying on bud selection be referred to the executive."

The Executive Committee recommended: "That the title of New Zealand Institute of Horticulture be retained."—Carried.

HONORARY MEMBERS.

Moved by Mr. F. S. Pope and Mr. T. Waugh: "That Mr. T. W. Kirk, late Director of Horticulture and Mr. W. H. Taylor, Horticulturist of the Department of Agriculture, be elected honorary members of the institute."—Carried.

It was resolved, on the motion of Dr. Cockayne, seconded by Professor Easterfield: "That the Executive Committee draw up a scheme for the election of honorary members, to be presented at the next annual meeting of the institute."

Votes of thanks were passed to the retiring president (Mr. J. A. Campbell), to the organising secretary (Mr. Geo. A. Green), to the Press, and to the New Zealand Association of Nurserymen for the gratuitous use of their railway ticket.

The conference then closed.

EXECUTIVE MEET.

The first meeting of the executive of the Institute of Horticulture was held on Wednesday, August 7, 1924. The president, Dr. L. Cockayne, F.R.S., occupied the chair. Other members of the executive present were: Professors Easterfield and Peren, and Messrs. Phillips Turner, T. Waugh, A. W. Buxton, Herbert Baillie, and George A. Green. Apologies were received from Messrs. F. R. Cooper and G. J. McKenzie.

Mr. H Baillie was unanimously elected as executive hon. secretary. Mr. G. A. Green was elected Dominion secretary and organiser. Dr. Cockayne spoke of the value of the past organising which Mr. Green had done for the institute, and the assistance he would be to the new executive. This was voiced by other members. Mr. Green thanked the members, and said his heart was in the institute, which he believed had a great future.

The matter of drafting the necessary alterations to the constitution to comply with the resolutions of the conference was referred to the sub-committee.

It was decided to proceed with the organising work as soon as possible.

Dr. Cockayne suggested that good service could be obtained by enlisting the interest of the ladies in the matter. This was approved, and left to the president to carry out.

A hearty vote of thanks was passed to Mr. W. C. Hyde for his able assistance as conference minute secretary.