



MOUNTAIN DAISY (Celmisia Coriacea)

In the Hollyford Valley.

—W. R. B. Oliver, photo.

JOURNAL
of the
ROYAL NEW ZEALAND
INSTITUTE
of
HORTICULTURE

Vol. 15.—No. 1.

JULY, 1945.

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JOURNAL OF THE ROYAL NEW ZEALAND INSTITUTE OF HORTICULTURE

Vol. 15.—No. 1

Wellington, July, 1945

ENCOURAGEMENT OF HORTICULTURE

Why Citizens and Organisations Should Affiliate with the Royal N.Z. Institute of Horticulture

THE Royal New Zealand Institute of Horticulture is a society registered under the Incorporated Societies Act and established for the sole purpose of endeavouring to raise the status of horticulture within the Dominion. While it receives State recognition and a limited amount of State assistance, it is by no means a Government organisation, but is composed of the leading horticulturists of the Dominion, together with some of the principal teachers of science in the University Colleges and scientific men of New Zealand.

Members have nothing to gain for themselves personally, but notwithstanding have financed the organisation and given their time to the management of its affairs. Membership is open to all, whether they are horticulturists or not, and an appeal is made to those members of the public who feel prepared to contribute a small annual membership fee in the interests of the future welfare of the Dominion from a horticultural point of view. The Institute has many actual and potential activities, but the outstanding one of the moment is that of horticultural education.

EFFORT WORTH WHILE

The effort is worth while, for it is difficult to over-estimate the importance of horticulture to the nation, so interwoven is it with the lives of the people. Consider how it concerns not only an essential and very large part of the food supply, but from the aesthetic standpoint it is pre-eminent. The gardener, both professional and amateur, is indispensable to our well-being.

Nothing can be clearer than the fact that the best horticultural education procurable should be provided for those proposing to take up horticulture as a profession. But such education should go further than that, and suitable horticultural instruction should be given first in both the primary and secondary schools, and afterwards it should still continue, though working silently, by means of properly equipped botanic gardens, spacious parks, cities adorned with trees and flowers, popular horticultural writings in the newspapers, a journal devoted to gardening in all its branches, standard works and periodicals in the libraries, horticultural exhibitions, popular lectures and so on.

Finally, the goal, so far as New Zealand is concerned, is the development of a true national horticulture, worthy of the soil and the climate, and not a mere imitation of that of other lands. The necessary training for gardeners can be provided or, at any rate, a foundation be laid upon which, by degrees, a satisfactory educational edifice can be raised.

Here lies the opportunity for the greatest of all service. Join the membership of the Institute, attend the meetings of your District Council, contribute to its activities, get to know your fellow members, and in so doing you will yourself get real enjoyment as well as rendering a service to horticulture in the Dominion.

AIM AND OBJECTS

This is the aim and purpose of the Institute. The Horticultural Trades' Association in association with the Department of Agriculture (Horticulture Division) and the University of New Zealand were the pioneers of the movement, and their appeal was to citizens, horticultural societies, local bodies and other kindred organisations to join them in their efforts to develop horticultural education in New Zealand.

The following gives a brief summary of the Institute's objects:—

- (a) To provide a means whereby horticulturists of the Dominion and their organisations may be represented through a common organisation.
- (b) To provide ways and means for more efficient horticultural instruction in New Zealand whether through existing or new channels.
- (c) To encourage the development of local organisations of horticulturists.
- (d) To co-operate with similar organisations overseas for any purpose which it is considered will advance the interests of horticulture in New Zealand.
- (e) To co-operate with the university, agricultural colleges, technical schools, Government departments and local bodies in their activities on behalf of horticulture.
- (f) To endeavour to secure the improvement of existing facilities for horticulture training, particularly of our young people, and to preserve the interests of horticulturists therein.
- (g) To make available to horticulturists and their organisations any information obtained which may be of benefit to the industry.

Any benefits obtained by the Institute are enjoyed by **all** horticulturists, and it is only fair that the cost of organisation and the hard work by which these benefits are obtained should be shared by all concerned.

Our appeal is based on service and is expanding in ever-widening circles. You are invited to become a member and associate yourself with the horticultural educational movement in New Zealand.

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HORTICULTURE AND ITS PLACE IN NEW ZEALAND

By PROFESSOR G. S. PEREN, B.Agr.Sc., Principal, Massey
Agricultural College.
(Banks Lecture, 1945)

THE subject of this lecture is one on which I am particularly pleased to have the opportunity to speak and, further, is a very apt choice on which I must congratulate the Executive of the Institute of Horticulture—apt, because it is clear that important developments are pending in a number of branches of this large field. For several of these the war is undoubtedly responsible, but at the same time a greater interest in horticulture on the part of the general public is very evident.

Although the term "horticulture" is frequently used in a narrow sense in this country to indicate gardening, amateur and professional—a curious habit which I have only run across in New Zealand—the term really embraces the whole field of gardening, fruit growing and vegetable growing. Each of these is, of course, a very large field in itself. It is therefore necessary in a survey to divide it into its main component parts. Again, in the case of a lecture such as this it is desirable to consider aesthetic as well as economic aspects.



PROFESSOR G. S. PEREN

—S. P. Andrew, photo.

CULTURAL VALUE OF GARDENING

To begin with, I should like to give you a few views on the cultural value of gardening and beautification which I have formed in the course of years. Take, to begin with, the influence of a really attractive garden. Have you ever thought of the value of this and its influence on young people? It provides an atmosphere of beauty, orderliness and repose which has a true cultural value that is bound to have an effect on anyone, unconscious though this may be. I often wonder how many parents think of the influence of a home in a beautiful garden as opposed to a perfectly good house in a garden that is so neutral that one never even looks at it. To develop the theme, think of the influence on an urban community of beautiful avenues flanked by delightful private gardens. The whole tone of such a setting is cultural in the true sense of the word.

At this point I want to mention a matter which is so often brought home to me, and that is the extent to which so many people in this country seem to think that culture can only be obtained from books. I suppose this is due to the fact that living in a young and beautiful country, as we do,

there is a natural tendency to fail to appreciate the value of what we have around us and to yearn for the more academic culture commonly associated with the Universities of the older countries. The older countries, on the other hand, with a very much higher proportion of urban population and so much spurious culture mixed up with the sound, appreciate very much more than we do the beauties of nature.

While criticising our outlook, it is only fair to say that in my own opinion our standard of gardening and beautification is more commendable than that of either Canada or Australia. While both of these sister Dominions have many wonderful parks, botanic gardens and magnificent private gardens, the garden of the ordinary householder, and especially of the small farmer, does not compare in my opinion with what we have in New Zealand. Since we all belong to the same family, it is probably due to a considerable extent to climate. The weather and the artesian water in Australia can make gardening very difficult, and the long winter, followed by the hectic rush of work during the relatively short summer, does not leave much time for gardening on a Canadian farm. I am by no means alone in this opinion and I only mention this point out of a sense of fairness.

ENCOURAGEMENT OF BEAUTIFICATION

Turning to the plans for the encouragement of beautification, for five and a half weary years we have had to mark time with many of our peace-time pursuits, but presently we shall be able to take up again the development of this young country, and in this connection I have asked myself many times how we can plan and build so as to improve still further the conditions in which we live, both in the country and in the city. I have a feeling from contacts which I have made that, given strong leads and improved technical services, the country would respond amazingly to well-balanced schemes for the beautification of both homes and towns, and I put it to you that the various societies and organisations represented at this gathering should endeavour so to organise this development on a strong, carefully conceived basis as opposed to the piecemeal efforts of scattered pioneers. The problem must be treated with balance.

I do not for one minute suggest some form of regimentation on a national basis—I am all for individual expression of talent by strong local societies—but I do think there is room for a much closer contact between parent bodies and the societies affiliated to them, for more constructive help and for more efficient exchange of ideas. Call the latter a technical advisory service if you like. I submit that in this work the Institute has the opportunity to exert an influence of incalculable value. Again, it is futile to expect everyone to be born enthusiasts where beautification is concerned. Advances must come as a result of an ever-increasing influence which finally so accustoms the people to the sort of surroundings one has in mind that they demand them as a normal part of their surroundings.

To discuss the foregoing problem in rather more detail, how can town beautification and better gardening best be developed? Yeoman work has been carried out in the past by horticultural societies, beautification societies, gardening circles and other organisations of this type. In fact, it is to them and the enthusiasm of their members that we owe everything. These willing workers have set a standard for all through their wonderful gardens and efforts to spread the gospel by shows, lectures, etc. In this work they have been ably assisted by the superintendents of parks and reserves in their towns and cities, who have ever been ready to share their professional knowledge and to distribute plant material to local enthusiasts. Again, the Horticulture Division of the Department of Agriculture has always been ready with advice on technical problems. Until recently the University, as a whole, has contributed little; here and there an individual has helped, but there has been no official recognition of horticulture and, therefore, no courses of organised instruction on the subject.

VALUE OF TEAMWORK

Can we improve the teamwork in the future and if so in what ways? The institution of two-year diploma courses in horticulture at the two agricultural colleges should be one step forward judging by the attendance of students at my own college where the course has been running for over a year. These two courses are going to tap a very considerable number of young enthusiasts and given sound tuition, the output of trainees must, in the course of time, have a profound influence. I am well aware that two years is too short a period in which to learn the whole of gardening at the professional level, but you will appreciate that the colleges with their staffs of trained teachers, their gardens, their libraries and their contacts with various horticultural institutions of one kind and another in the world are able to give their students a sound foundation which cannot help but be of inestimable value to them. On this foundation they can build throughout their lives, always adding to their store of knowledge by practical experience, contacts and reading—one never comes to the end of an intricate subject such as gardening in all its ramifications.

Another development which I am given to understand will take place before long is the appointment of a senior officer to the Horticulture Division who will concentrate on the field of work under discussion and in addition such important subjects as nursery work, the production of flower seeds and other such allied activities. The addition of this officer to the staff will enable the Department to give still greater help in the future.

FUTURE PROPAGANDA

These two developments will, I believe, make it possible for the various societies to give their members and the public a fuller service on technical matters. The participation of the two agricultural colleges will inevitably lead to the provision of brochures, bulletins and text books to reinforce our present meagre supply. There is still so much to be written in sound, easily readable form for New Zealand conditions; so many gaps appear when one looks for a thorough treatment of a subject. The Department, no doubt, will not only help in a similar way, but will also lend its influence to the organising of the national effort.

I have a number of schemes in my head in connection with this side of the work which I hope to be able to put into effect in the course of time. At the moment, however, one is hamstrung for lack of assistants. Quite apart from the war, we have not been training them on an adequate scale, and the number of young New Zealanders capable of taking part in scientific work on horticulture is, therefore, very small indeed. This is a situation we shall remedy. It will take time, however, and not until the young people whom we are training today have been out in the world and have found their feet in the matter of additional experience will it be possible for us to develop fully the various urgent lines of work which I can see calling out for attention. There are so few of us older people that the amount we can do is limited; our most valuable contribution will be the moulding and, I hope, the enthusiasm of a body of young people of both sexes which, when it gets into its stride, will bring about the progress we are impatiently awaiting. In the meantime, of course, we shall peg away, and in this connection I should like to make the following suggestions.

As mentioned above, I feel confident that marked strides will be made if the various amateur organisations of one kind and another can be provided with an up-to-date advisory service, and in this connection I am sure that the moving picture can play a very big part. For example, it is often very difficult to convey to an audience by word of mouth exactly what one has in mind when it comes to a certain landscape effect or planting scheme. Further, the professional man, who is for ever on the look-out for good examples for instructional purposes, runs across from time to time outstanding examples of this and that, examples which horticulturists should see. This is where

the moving-picture camera and the projector come in. I have already made plans for my own college to take up this work. We have both the camera and the projection apparatus, and hope soon to add films to our already useful collection of coloured slides.

I feel confident that cleverly designed films which would take members of a horticultural society around scenes from a number of towns illustrating what can be accomplished and how this and that may have an otherwise delightful effect would do a great deal of good. Many residents would, I feel confident, co-operate more readily in the improvement of their streets and roads if given a lead of this kind. In so many cases people are quite unaware of the mistakes which they or others have made and which are ruining what could be such pleasant surroundings. I am sure that an inherent interest in these matters exists in a very marked degree; it only needs bringing out by the right methods.

RESPONSIBILITY OF NURSERYMEN

There is another important matter which concerns very closely our friends the nurserymen. While appreciating all they have done in the past and realising they have to make a living, I am going to suggest yet another way in which they can help not only, I believe, themselves, but also the popularity of gardening. I feel still more can be done in the direction of selling to customers as far as possible only those varieties of plants which will succeed. I do most seriously put it to them that they should jointly take action to take off the market certain varieties of plants which they know are extraordinarily subject to disease or insect attack or which, like many Australian plants, have a root system which will not stand up to the winds to which 99 per cent. of our gardens are exposed.

Take roses, for example. There is a wonderful wealth of material to select from, and although the behaviour of some varieties varies with localities, so that one must be careful not to be too dogmatic, there are quite a number which cannot be grown anywhere without far more attention than the ordinary gardener is prepared to give. Were it not for the advertising value of novelties, such varieties would never have been put on the market and I submit that they should be dropped. Too many customers are disappointed because plants on which they have lavished much care and attention fail. While I daresay some of my nurserymen friends will not agree with me, I feel sure that a policy which makes for the largest number of satisfied customers will in the end result in the largest volume of trade.

IMPORTANCE OF PLANNING

Turning to town planning, it is unnecessary to point out the importance of this subject. While some people are inclined to criticise orderly planning on the grounds that so many of the schemes are not within the realms of feasibility, the fact remains that the development of our towns and cities must be planned; it cannot be left to the mercy of speculative builders or allowed to take place without reference to some master plan. My fault with so much of the town planning which I have seen is that it savours too much of the civil engineer, with all due respect to the latter. Too many of the effects produced are too stiff and formal and often far too cramped. What seems to be lacking is the advice of a really first-class landscape gardener. In his absence most of your schemes will just miss it, as they say. We Anglo-Saxons, in particular, need assistance of this type as, generally speaking, we are a matter of fact, unimaginative type as compared with so many of the other races. These traits have, of course, stood us in wonderful stead in our history and I would not be without them, but it is foolish not to face up to the fact and arrange for assistance where we know we are weak.

TOO MANY FENCES

Talking of town beautification and of the effects produced by the arrangement of houses and gardens, there is a lot to be said for the effect produced

by the American custom of largely doing away with fences around their front gardens. I have seen a lot of it in Canada and the United States and I must say that I like it. Applied to a street as a whole it produces the effect of much greater width; the road is more spacious, the avenue has a very much more dignified appearance, and once one has become accustomed to it, the other extreme which we Britishers love is most unattractive. Have you ever stopped to examine a suburban road critically from the point of view of the number of unkempt hedges, fences in need of repair and walks of hideous design which are detracting from its appearance. I know only too well that it is nice to have a certain amount of privacy, that other people's dogs can be a nuisance and that unfortunately far too many people are inclined to help themselves to the contents of other people's gardens. Nevertheless, I think the American custom is well worthwhile, unless one is on a stock route, and I am quite confident that once adopted on a large scale the old practice of enclosure would never be revived. Privacy, incidentally, can usually be obtained in that portion of the garden at the back of the house.

Incidentally, the material side of the subject deserves mention. Concrete and brick fences are expensive and in districts subject to earthquakes are unsound propositions, as sooner or later they crack or get out of plumb and become an eyesore. Fences of one kind and another mean money, both to erect and maintain, and hedges mean labour. The cost of building a house alone is high enough in these days, and if economy can be effected by dispensing with expensive boundaries, there is very much to recommend it.

ENCOURAGING FLOWER SHOWS

There is another aspect of horticulture as it effects the private individual, and that is flower shows, exhibitions and so forth. We are all anxious to see these strongly patronised by the general public; as we have said before, the influence of this sort of recreation is altogether good—horticulture is one of the Fine Arts and has a high cultural value. On the other hand, I feel that the good people who have already put in so much unselfish work on organising these fixtures have got to do even more or, at least, have got to think in rather bigger terms. If one is going to attract and hold the interest of the general public, as opposed to the horticultural enthusiast, one must make every endeavour to put on shows and exhibits which in the matter of decorative and general set-up compare favourably with the best of the artistic effects obtained by the leading shops which the people look up to and unconsciously adopt as their criterion of fashionable up-to-dateness.

Now, I know this is expecting a lot; nevertheless, it is a target to aim at. It is by no means unattainable, as may be witnessed by visiting the big flower shows and exhibitions in other countries. It may be said that this sort of thing costs money and cannot be done without the assistance of a number of wealthy patrons and so on and so forth. My reply is that it is amazing what can be done if you can only succeed in interesting the right people. It is a matter of gaining the interest of a sufficient number of people with professional qualifications in decoration and organisation and you will be able to stage a show which the public as a whole will look up to.

I know you will forgive me if I say that so many horticulturists are so interested in the individual blooms that they are not sufficiently concerned with the larger effect. Your general public, however, is very much influenced by the latter, since its knowledge of the finer points of the individual flower is limited. You have got to get these people into your show by selling them the idea that a horticultural show is a delightful place to drop into, a place where you will meet a large number of your friends and be charmed by the general effect even if you are not an expert gardener. Again, there are quite a few principles which must be followed in staging horticultural exhibits and some of these, I notice, are often neglected. It has occurred to me that a well-written brochure on this subject might be a distinct help to newly established societies.

I sincerely hope that none of you will be hurt by my suggestions. I appreciate as much as anybody the really wonderful work that has been put in so unselfishly by so many in building up the various shows. I am very keen, however, to see the standard raised still higher and, when asking myself how this can be done, I have felt that I should offer some constructive criticism. I have said to myself, we must leave no stone unturned to get a much larger section of the community to take as great an interest in horticultural shows as they do at Home. We must build them up so that they come to occupy a much more important position in the public regard—hence my suggestions.

INFLUENCE ON CHILDREN

I must not omit from this talk the matter of awakening an interest in horticulture among children of school age. It is a matter which, in my opinion, is not nearly so straightforward as might appear at first sight. I am firmly convinced that every school should have sufficiently attractive grounds to exert the type of influence I have already discussed; a considerable number unfortunately fall short in this respect. Compulsory gardening, however, is a very different story. I am always very much afraid of setting young people against both horticulture and agriculture by compelling them to work on these subjects before a natural interest in them can reasonably be expected to have developed. It is a problem which also applies to the home garden and which can only be handled successfully by the use of common sense on the part of both teacher and parent. Forcing tactics are fatal; in a matter of this sort one can only lead the interested youngster.

There is a final point which I should like to make before turning to the economic aspects of my subject, and that is the value of advertising by the trade, and by florists in particular, in encouraging an interest in gardening and in the greater use of flowers. People have been amazed at the extent to which American servicemen make presents of flowers and the trade has been highly appreciative of the consequent boom in business. May I point out to you that this very charming habit of the Americans is a direct result of years of very clever and very high-class advertising in the United States. The use of flowers has been so skilfully inculcated into all smart effects that they have come to be looked upon by the American people as much more of an essential than is the case with our own people.

ECONOMIC ASPECTS

Turning now to the economic aspects of horticulture in New Zealand, one has naturally pondered on many occasions the problem of developing this country of ours in the light of its soils, climate, topography, geographic position and standard of living. Looked at as an agricultural proposition, one is confronted with a comparatively small country of which a very large proportion is hills. At the same time, the country's policy must clearly make possible the maximum employment of people on the land, compatible with our views on standards of living. A consideration of the possibilities in this respect indicates quite clearly that not only fat lamb production but also dairying have distinct limitations. The systems of farming which we follow in both of these branches of our agriculture, although most profitable, do not lend themselves to the employment of much labour per unit of land. Furthermore, there is the question of markets, the disposal of surpluses, to be considered in any question of the expansion of these two lines of farming. Therefore, any profitable undertaking which would help to diversify our farming and at the same time make possible a greater population of the land clearly merits development.

In this respect the commercial branches of horticulture can play a still more important part than they do at the present; in fact, I consider it vital that we should develop them as rapidly as markets permit. There is nothing else we can look to in the higher rainfall areas: we must get more people on to the land and dairy farming and sheep farming have very definite limitations in this respect.

I appreciate only too well that along with the development of an industry must go the careful planning and development of markets, and further, that when slumps come along the products of horticulture tend to suffer more than absolutely essential foodstuffs. Nevertheless, these remarks refer to quite a number of lines of business and these problems can be met by foresight and sound organisation. By virtue of its climate this country is naturally adapted to a number of branches of commercial horticulture and I feel perfectly confident that the future will see considerable developments in this field.

USE OF LABOUR-SAVING MACHINERY

Before discussing with you certain aspects of the main branches of commercial horticulture which have struck me rather forcibly, I want to emphasise one matter which applies all round and which I consider of major importance, and that is the use of labour-saving machinery. As I see it, one of the great problems of the nurseryman, the fruit grower and the vegetable grower is the labour bill, and if we are not careful this item is going to prevent the healthy development of our horticultural industry. You may point out that I have just been talking about the desirability of getting more people on to the land and that I am now bemoaning the amount of labour required per acre. At first sight there might appear to be a contradiction, but I would point out to you that the difference between the amount of labour required per acre for nursery work or vegetable growing and dairy farming is very considerable. One can reduce by labour-saving devices the amount required for horticultural enterprises and still leave a very great margin in their favour, in terms of labour units per acre. Unfortunately, this line of attack involves considerable working capital, and I do not see how labour-saving machinery, etc., can be brought into use in a great number of cases unless there is brought about a considerable re-organisation in the direction of specialisation and large-scale production.

In other words, I feel that the small unit must specialise, so far as it is safe to do so, in order to simplify its operations and thereby reduce its overhead. I believe that there is a very definite place for more of the larger types of organisation, say, if you like, the company which can put down sufficient capital to enable it to operate on a large enough scale to make possible the purchase of expensive machinery and its employment on a profitable basis. I sometimes think that we may eventually have to come to some form of close co-operation between growers whereby similar results can be obtained. I realise only too well the difficulties of this type of organisation. Our Anglo-Saxon character is far from partial to it but "needs must when the devil drives."

I can remember as a young boy the fruit growers on the Pacific Coast flatly refusing to co-operate but finally being driven to it as the only alternative to bankruptcy. I can also remember carting dray-loads of fruit to the first co-operative packing house in the Okanagan district of British Columbia and the various trials and tribulations which beset these early co-operative efforts. Today the fruit industry on the Pacific Coast is firmly based on the big fruit co-operatives and without them the fruit growers would be lost. We have co-operation in this country and it is doing good work, but in my opinion we have got to go a lot further in order to save labour and keep down overhead expenses if we are going to develop intensive forms of farming to the fullest and so employ a relatively large number of people per acre.

VALUE OF SMALL FRUITS

There are one or two points in connection with our fruit growing industry which I think are pertinent to the title of my lecture. The first one is the high price of most of our small fruits. I should like someone to tell me of any other country with a temperate climate such as ours where the cost of strawberries, raspberries, currants, cherries and grapes is so exorbitant. To

the average New Zealander these fruits are a luxury; to the people at Home, the Canadian and the American, they are a commonplace. Despite their high wages and high standard of living, they can produce small fruits in Canada and the States at a price at which the ordinary working man can buy them freely. How many of you can afford to buy cherries, for example, whenever you fancy them? Why should we, with our favoured conditions, be debarred from enjoying so many of our fruits? There is something radically wrong somewhere and I can only assume that it lies in the small-scale operations and consequent high cost of production.

You may be interested to know I am trying to run this matter to earth. I have written to a number of organisations, university and otherwise, in the United States, and I am hoping that in due course I will be able to arrive at the costs of the various items connected with the production of small fruits in that country. If the results of my enquiries should eventually be worthwhile I shall probably distribute them in the form of a college bulletin.

OPPORTUNITIES FOR CANNING

The canning business is naturally of vital importance to commercial fruit and vegetable growing, and the further development in this industry, due to the war, leads one to hope that this field will be steadily developed as markets offer themselves. Granting the danger of over-production in the case of an export trade and therefore the need of great care in this direction, one would like to see us at least able to supply our own requirements. Why should it have been necessary as recently as the outbreak of the war to import such items as canned tomatoes from Eastern Canada and Eastern United States, many thousands of miles away and involving long railway haulage, is beyond my comprehension. The good people of Hastings seem to me to be pointing the way with their various enterprises, and I very much hope their lead will be followed by others and that this branch of the horticultural industry which widens the field for the producer and at the same time employs so many hands will be steadily developed wherever circumstances are favourable.

TRADE IN FLOWER AND VEGETABLE SEEDS

Most of us are inclined to think of our horticultural exports in terms of apples and pears, but we should not overlook the trade in flower and vegetable seeds and in nursery stock. Certain parts of the country are admirably adapted to the production of high-grade seeds, as we know from the trade in this commodity which we had worked up before the war. I should like to see this field developed to the maximum as a valuable form of intensive farming. Where crops are grown on contract for firms in Great Britain there is the added advantage in that no marketing problem exists. Again, an export trade in nursery stock such as the pre-war export to Australia of camellias and daphnes, can, I feel confident, be further developed.

Our temperate and equable climate places us in a more favourable position than almost any other country in the world when it comes to the propagation of many classes of plants. Great Britain and Japan also possess island climates particularly well adapted to a wide field of horticulture, but none can come up to our own and we should capitalise this precious asset to the full. I feel sure that our progressive H.T.A. will play a progressive part in developing this potential export trade and, from what I know, I am confident that the Department of Agriculture will give all the help in its power.

SUB-TROPICAL FRUITS AND NUTS

Before leaving the field of major developments in commercial horticulture I feel I must call your attention to the fact that we should have a very definite interest in the hardier of the sub-tropical fruits and nuts. Not only can a number of these be grown in the Auckland Province, but we have a moral responsibility to develop those islands lying north of New Zealand which

have been placed in our charge. There is a natural tendency for us to confine ourselves to the use of those fruits and vegetables commonly grown at Home, and this is assisted by the fact that even North Auckland is not so far north that sub-tropical fruits are a matter of course. A start should be made with a search for hardier varieties and with a programme of breeding and selection from these varieties. The northerly extension of the wheat belt in Canada shows what can be accomplished by these methods. I heartily agree with our good friend Mr. V. C. Davies that here is a most important field of work awaiting our attention; one of the jobs to be done in the development of this young country.

To conclude this section of my remarks, I feel quite confident that we can anticipate considerable developments in fruit, flower and vegetable growing and in the nursery business. With age the closer settlement of new countries becomes essential, and this necessitates more intensive kinds of farming. Most of our country is not suitable for grain growing, but the climate which produces such marvellous pasture is also admirably adapted to many branches of horticulture, and we must take full advantage of this fact when planning the closer settlement of our comparatively small acreage of ploughable country. The problem of finding land for returned servicemen indicates which way the wind is blowing, and it therefore behoves us to face up to the position with vision and an appreciation of the fact that so far as the utilisation of our land is concerned we are at the beginning of a new era.

PRESERVATION OF OLD GARDENS

Finally, there is a matter on which I feel very strongly, and that is the steady disappearance of beautiful old gardens connected in so many cases with the early days of the colony. Magnificent trees and wonderful collections of shrubs which have taken years to grow are frequently slaughtered with no thought of their historic and cultural value. Surely it is time that the nation bestirred itself to preserve these material beauty spots as has been done in Great Britain by the creation of a National Trust with the power both to purchase and accept from donors historic and beauty spots for preservation for all to enjoy. I can name a number of beautiful old gardens whose loss would be a national calamity.

With the post-war building programme still more lovely old grounds will be cut up and time, therefore, is the essence of the contract. Would it not be possible for the Institute of Horticulture to set up a committee to consider ways and means of raising funds for the purchase of these landmarks. I can think of several ways in which this could be done; the important thing, however, is action, and I should dearly like to see a move in this direction as one of the outcomes of this year's gathering of horticultural interests.

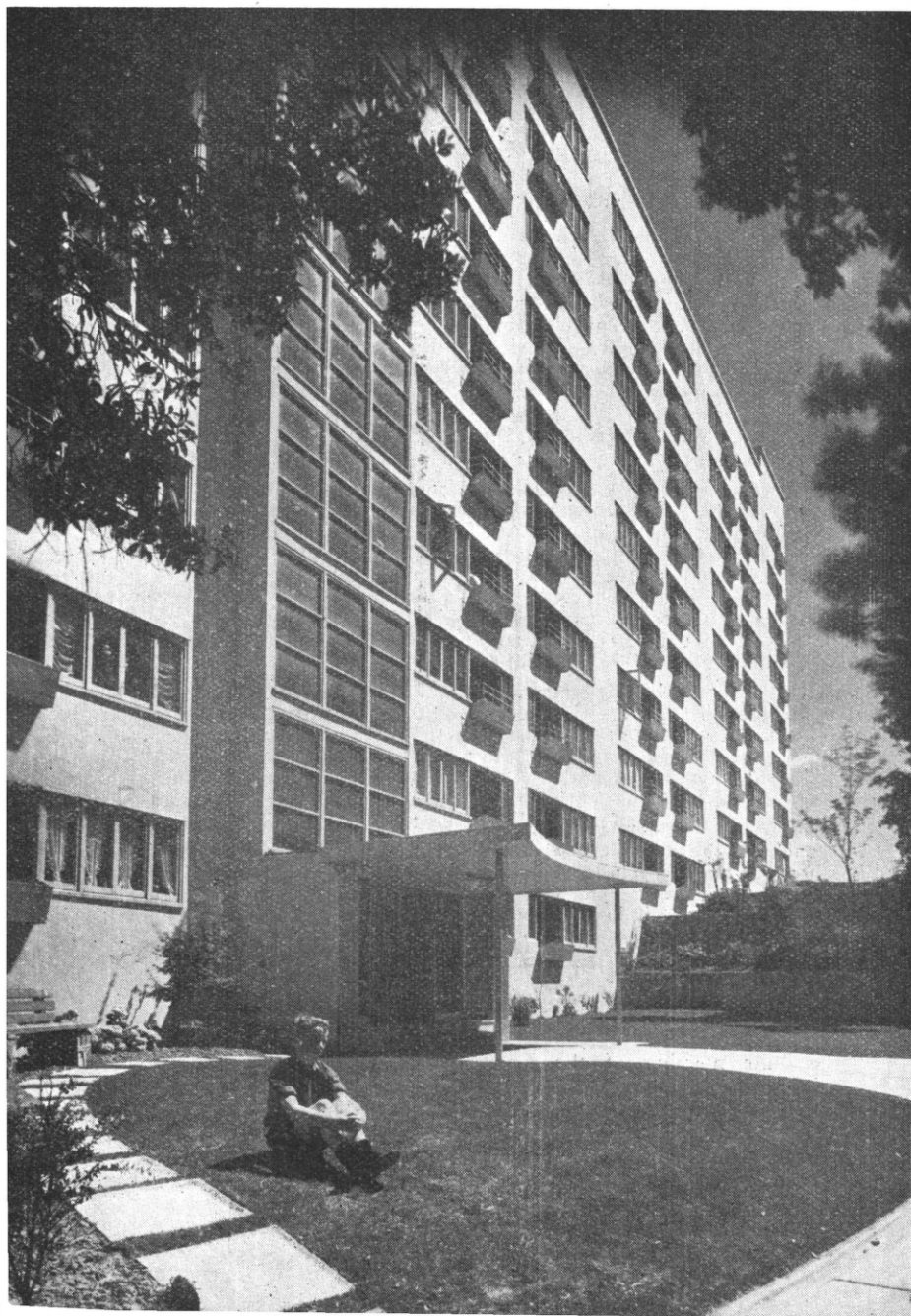
To conclude, the war has given a decided impetus to private gardening and has brought about a number of developments in the commercial field. On balance, horticulture has gained, and I believe that in the post-war period we shall see this important industry playing a much more important role in the development of the country.

REVISION OF EXAMINATION SYLLABUS AND SCHEME OF TRAINING

AT the June meeting of the Executive Committee the sub-committee appointed by the Examining Board placed before members the final revised draft of the proposed amendments to the syllabus. The sub-committee, which consisted of Messrs. G. V. Wild (convener), E. Hutt and Wm. C. Hyde, have carried out a work of a very high order, and it is felt that all members will be satisfied that they have accomplished a difficult task in a most efficient manner.

THE COMMUNAL GARDEN SURROUNDS OF A BLOCK OF
RESIDENTIAL FLATS.

—C. P. S. Boyer, photo.



HORTICULTURE IN THE GOVERNMENT'S HOUSING PROGRAMME

By F. A. JONES, Landscape Architect, Department of Housing Construction, Wellington.

LITTLE does the average person realise the importance of horticulture in the development of a housing programme of any magnitude. Even the more fortunate who today are in the happy position of contemplating the building of their own houses will, when confronted with a comprehensive building programme, have little conception of the seemingly endless requirements of a scheme which provides for the erection of thousands of houses throughout the Dominion annually. Almost negligible will be their knowledge of the long-term planning necessary in every allied field of endeavour which, welded together, will create firstly that desirable section on a modern street in a well-planned locality, serviced with all those amenities both social and utilitarian so necessary in the age of densely built up municipalities, and secondly, that house which eventually springs up on this section—a house surrounded by a garden of utility and pleasure, in such violent contrast with the conditions under which in many cases the now fortunate occupants have previously been forced to exist and do their best to raise a family of young virile New Zealanders.

The individual home-builder's primary difficulty is finding a desirable section within his economic range and in a "serviced" locality, a factor which to some extent also determines large-scale housing activity. With the rapid increase of population experienced in most municipalities and the correspondingly small increase (if any) in civic boundaries over the past three decades, vacant "serviced" areas of any size are now almost non-existent. Thus



State house gardens four years after occupation.

becomes apparent the task of the housing authority to create such desirable localities by installing and providing for all utilitarian services and recreational and social amenities so necessary for the health and well-being of the future residents.

When implementing the housing programme, the Government determined that cognisance should be taken of all those amenities and aesthetics which of their own volition largely react on the health and well-being of the community, and that though houses would be occupied on a leasehold tenure, the occupants would enjoy all the privileges pertaining to freehold. With this end in view, every endeavour is made in completed State houses to foster a spirit of ownership, and tenants are encouraged to create and foster their own home atmosphere. Some small restrictions do exist, but these are designed to co-ordinate this ideal with that of a community spirit, resulting in the maintenance of their gardens and street frontages in such a condition that the completed street pictures become vast community gardens for the aesthetic enjoyment of all.

It is in the creation of these vast community gardens that horticulture plays the leading role. Picture for yourself a suburb in any of our cities in which each street is perfect in alignment and location, every "service" perfect in operation, every house an architectural model, but in which also appears not a vestige of growth or life in any other than the human form—a truly depressing picture. What a debt of gratitude and thankfulness we owe the Master landscape architect for the provision of all the many and varied beautiful subjects we tersely acknowledge as plants, be they grass or forest trees. Conjure a vision also of a further progression or period in suburban development still most perceptible in this country—developments under which homes have been created with no other than a selfish outlook, wherein streets are nondescript in character, location and direction, and hideous unkempt high fences or hedges confine the vision of the passer-by to the general depression that is created by such circumstances.

Home privacy is a most necessary and desirable privilege, but that privacy is required more in the back or most used portion of the holding. The modern trend of front fence abolition adopted for housing schemes inculcates a primary community spirit without detracting from that desirable state of privacy so urgently required. The trellis fence erected between houses provides the necessary screen for back garden privacy. A background is also thereby provided for the community garden vista obtained by the mass of individual allotments unscreened by objectionable erections.

Under the outmoded trend of street and garden obscurity, how could that admirable quality termed civic pride develop? Selfish pride certainly, but this term does not appear in the vocabulary of the horticulturally minded. It may be said also that such obscurity of Nature's ordered and controlled beauty as obtained per medium of a garden is often responsible for the development of vandalism, especially in our boisterous youth.

SINGLE-UNIT DEVELOPMENT

Under the accepted logic of garden practice that the greatest enjoyment is obtained from something personally created, tenants other than those unfortunately housed in blocks of flats are required to lay out and form their own gardens. In this construction work they are enabled to express their individuality in the creation of their home surroundings. The Department in its development operations does, however, provide the general foundation work in that the sections are cleared of surplus materials and roughly graded. From a point midway between each house, a wire fence is erected and a hedge planted around the three sides of the back section. From house to house a trellis fence is erected at the point the hedge terminates, and from this trellis fence down each side of the front section a narrow concrete kerb is installed at ground level to the boundary pegs. If necessary, the kerb is carried on

across the front boundary, but where possible, a far more satisfactory community effect is obtained by merging the section frontage with the road boundary. Concrete paths are provided from the street pathway to the two main doorways of the house unit, and from the house unit to the clothes-drying facilities. The only further material assistance provided is the supply of from four to six ornamental trees or shrubs, which are planted for the tenant in accordance with a general planting scheme embracing the future furnishing of the adjoining street and reserve areas.

From this it will be seen that the Department in its development work co-ordinates the general garden or section levels with the street frontages. The fences erected and the hedges planted will in time ensure complete privacy for each back garden, representing on a general average approximately two-thirds of the total "lot" area. As the trees and shrubs supplied are part of a general planting scheme covering a substantial area of country, their exact location in each front garden can be adjusted to suit any design adopted by the tenant. The only restriction placed on a tenant's gardening activities affects the ultimate height and general type of plant for front hedges. The need for this restriction will be appreciated, especially when it is remembered that the only garden acquaintance of many tenants dates back to the "fencing in" era. The objections received, however, have been very few—a remarkable testimonial in fact to the power and strength of community spirit and its inculcated civic pride.

Admittedly, there will always be some who are not interested in the aesthetics or in horticulture; experience has proved, however, that the example shown by the large majority of tenants has provided a sufficient incentive to awaken an interest, and usually a very deep interest. To the question whether such an interest would be sustained, I would, refer to housing schemes completed six to seven years ago. The tenants' interest has never wavered, the spirit of competition between streets and individual allotments being as keen now as in the first years of their occupation. One scheme in particular is worthy of mention. This scheme provided for the erection of 400 houses, and the "torch bearer" was an elderly invalided factory worker who was totally blind and handicapped also with the loss of his right forearm, a man who through force of circumstances had not enjoyed the pleasure of a garden for over 50 years. He had neither sight, knowledge nor experience, and yet within 12 months of taking possession his 26-perch lot would have reflected credit on a professional gardener. To quote his own words, "I feel 20 years younger, and life for me is worth living because I know my garden is as good as the next." This man's garden was, in fact, the best in the scheme. The vegetable garden was a model, and the rest, while not a mass of orderly rows like a catalogue illustration, was a garden full of individuality.

From these remarks and your knowledge of occupied housing schemes you will appreciate the opportunity that exists for the leaders and disseminators of horticultural knowledge to lend a helping hand. The large majority of tenants have never owned or worked a garden before. They are without question keen, receptive, responsive and appreciative of any advice or encouragement they may receive. This thirst for knowledge is not the prerogative of the State tenant only; it applies to many thousands of private home-builders also. How better could horticultural societies justify their existence today than by emulating the example of the few in organising and conducting informative garden competitions?

MULTI-UNIT DEVELOPMENT

It is regrettable that in our main centres it is not possible to house every family in the ideal isolated unit. Conditions and location of employment often necessitate residence adjacent to the industrial or commercial areas. Consequently, the housing programme provides for the erection of many groups of what are termed "multi-unit" dwellings. These vary considerably in size

from a humble four-unit block to a group of buildings providing accommodation for many families, the largest block so far completed containing 116 self-contained flats.

As this sphere of housing is usually located in heavily built-up areas the economic usage of available ground determines to what extent provision can be made for tenants' participation in horticultural practice. In the smaller blocks the sections can usually be subdivided to provide individual gardens for each tenant; in the larger blocks any such subdivision is impracticable. However, in every instance some facility is provided. In this latter type of construction the main surroundings are laid out and planted as a community garden, maintenance being carried out by the appointment of a gardening staff. Wherever possible, an area is subdivided into allotments, one for each flat. Further, in most large groups each flat is provided with a window box in the balcony area. On the innovation of this allotment system it was assumed that many tenants would not be interested and that probably the unoccupied space would revert to the care of the gardener. There has been no such reversion, and it has been interesting to note the tenants' interest and regard for the community gardens and the usage of their allotments. Some grow vegetables and some flowers, both with equal success.

In this sphere of housing there is ample scope for the planner, especially in cities where vast housing projects are required, involving the incorporation of industrial and commercial zones in the town plan prepared. Such scope will also be available within the existing confines of our cities when slum clearance makes way for modern planning and reconstruction. In this direction the accompanying illustration of a multi-unit development in the preliminary plan stage will convey some idea of the revolutionary innovations that may be expected in our existing decadent areas. In this will be noticed secluded garden allotments in the general scheme and the provision of intimate recreational space and other amenities, including garage accommodation, carefully screened from, but enhancing thereby, the street vista.

BEAUTIFICATION OF STREETS

Passing from the intimate or tenants' approach to the realm of horticulture, let us consider the general approach engendered in the development of housing schemes. Every picture must have an appropriate frame or setting. How incomplete these community gardens would be without the setting of well-designed and furnished streets and reserve areas of all classification. Is the design and construction of such the prerogative of the town planner and engineer only, or is the softer leavening of horticulture required to tone the correctness of the engineer and embellish the vision of the town planner? How pleasant the contrast experienced when passing from the usual suburban street to one tree-lined and with well-kept grassed areas! How pleasant and restful the setting for the contiguous homes!

It is with regret the tree-lover notes the rapid building up process of our cities, as this means destruction for so many of those magnificent specimens which enhance the mental outlook of all. It is with regretful understanding one sees the passing of those old large suburban gardens. These were undoubtedly the backbone of the sylvan vista which screened partially or completely the harsh ugliness of the naked roof skyline.

In planning any new subdivision the utmost care and discrimination are given to the preservation of worthy specimen trees. If at all possible the scheme is adapted to incorporate their location either in a reserve or road reserve area. Their preservation on an average (50ft. frontage) 26-perch lot will be acknowledged as difficult. Mature trees are desirable, but sun is essential. If, however, no other means are possible the tree or trees are retained in the building lot and the house is sited thereon subject to the preservation of the trees. The housing authority has often been accused of tree vandalism. This accusation is entirely without foundation. To the uninitiated

all mature trees in the mass or group as pertains in large suburban or semi-rural holdings are perfect specimens, but as their original objective was usually shelter, their type is generally not suitable, nor is their ability to stand isolation possible after so many years of massed growth.

Acknowledging the necessity for the removal of mature trees, the Department makes all possible provision for replacement. Nearly all streets designed or constructed are provided with a wide grassed berm area to facilitate street tree planting. Some exceptions do exist, however, but only in municipalities which even in this enlightened age still insist on a 40ft., 50ft. or 66ft. width of sealed area under the name of a suburban street. It may be mentioned here that in these few instances provision is made in the planting scheme for the area to obtain some if not all the effect desired by locating suitable trees inside the tenants' front boundaries.

The ethics of street tree planting is undoubtedly a wide and contentious subject worthy of intensive investigation. In practice an evolution is unquestionably commencing which, no doubt, in time will obviate that objectionable winter vista of stunted and mutilated stumps of noble trees which should have matured in a controlled, not topped, condition. It would be safe to say that but for the present war there would be no overhead wires in streets constructed by the Department. Fortunately, some schemes have, however, been completed without this bugbear of street trees to illustrate what will be no doubt general practice in the future. Street design and furnishing, however, do not stop at the abolition of power poles and the provision of tree-planted grassed areas. Streets are severely utilitarian, but that is no reason why their harshness should be so obtrusive in the general community picture. Certainly their direction, location, level and width of carriage-way are determined by the potential traffic requirements and other exigencies of the locality. But what of the footways and grassed areas, especially on rolling or sidling country? Seldom is there a practical reason, only precedent in design, why



State house garden five years after occupation.

these portions of the road reserve are not used as the intermediary between carriage-way and section frontage level.

To obviate or tone down this obvious fault in road design the Department does, wherever possible, install high and low level footpaths located on the section boundaries, picking up the change of level on the grassed areas. The effect of such treatment is not only economy but betterment for the whole community area. The harshness of the sealed area is lessened and the rolling effect of the graded grass berms merges a less obtrusive carriage-way into the garden frontages. It is not always possible to obviate some "banks" or "fills," but effective coverage of such is provided for in the post-war planting plans of the Department.

It may here be asked, "But what of the maintenance of any such shrub planting or even the grassed areas? Will this resolve into another burden for the local body to shoulder?" The answer is no. The tenants under their conditions of lease are responsible for the maintenance of their section frontages up to the street channels. That this "condition" has been observed as part of their community spirit and not by compulsion augurs well for the success of the plantings to be.

PARKS AND RESERVE AREAS

The usual suburban residential "lot" with its shallow depth and average 50ft. of road frontage has garden limitations. The vital need for sunlight and the fact that each section has approximately 1,400 sq. ft. of space occupied by buildings preclude the possibility of maturing large trees in all their natural majesty. If only to relieve this obvious aesthetic fault, reserve areas should be many and widely scattered, irrespective of the implied maintenance costs. The appellation of "breathing spaces" for such areas is true, but it would be more correct to add "and living spaces in our municipalities for those magnificent specimen trees so urgently required to tone the city landscape."

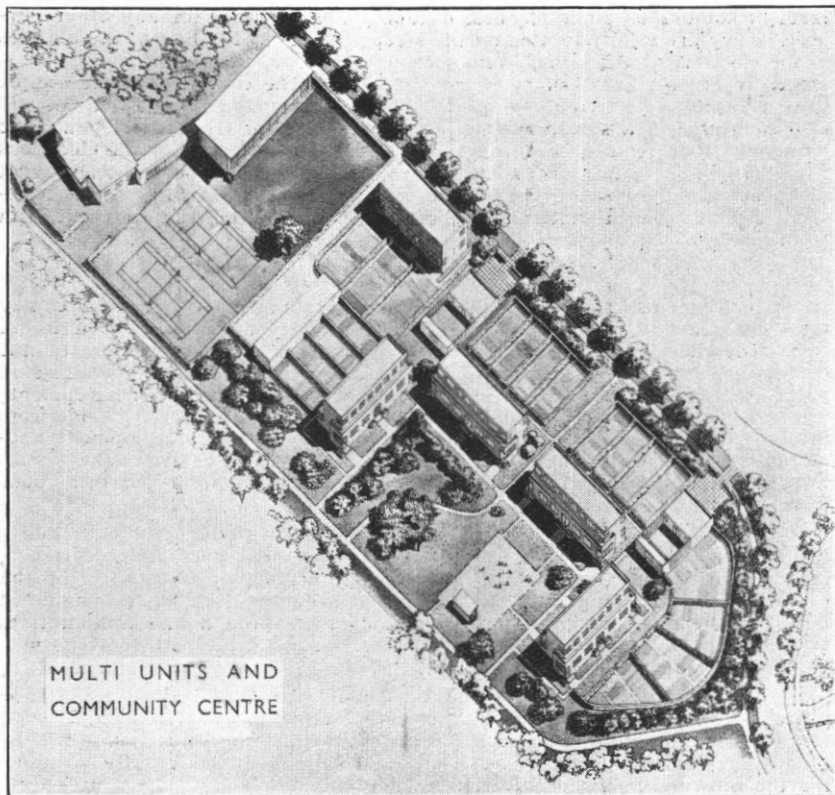
Reserve areas of all categories from the humble yet desirable roadway island or plot to areas of many acres are provided according to requirement in all housing schemes, each filling a place in the social and recreational life of the community to be. With the exception of the larger cities, however, the majority of such areas provided belong to the children's playground type. It is considered a vital necessity that children should be discouraged from converting the street systems into playgrounds; hence the provision of a play area in even the very small subdivisions.

In the larger centres in which housing assumes a dominant place in the "building up" process, reserve areas are not scattered promiscuously over the landscape. On the contrary, they are carefully plotted by the town planners according to the zoning requirements of their category in relation to the existing facilities. Especially does this apply to recreational areas which are provided approximately on an assumed density of population according to the following scale of age groups:—

- 1 to 5 years: $\frac{1}{2}$ acre per thousand of population, not more than $\frac{1}{2}$ mile apart.
- 5 to 10 years: 1 acre per thousand of population, not more than $\frac{1}{2}$ mile apart.
- 11 to 15 years: 2 acres per thousand of population in areas not less than 5 acres and not more than $\frac{1}{2}$ mile apart.
- 16 to 25 years: 2 acres per thousand of population in areas not less than 10 acres and not more than 2 miles apart.
- Over 25 years: 1 acre per thousand of population.

In the larger schemes provision is also made apart from recreational areas for those quiet restful areas termed "neighbourhood parks." Provision also is made in major schemes for that modern social and cultural amenity termed a "community centre."

Another modern innovation in reserve classification termed "the internal



Potential multi-unit development to accommodate 19 families, adjacent to a community centre on left.

parkway strip reserve" has recently been adopted in some of the Department's schemes. This type of reserve will be of special interest to the horticulturally minded in that, in effect, it does provide the perfect setting for tree furnishing the whole community garden area. In design this area consists of a long parkway strip variable in width from $1\frac{1}{2}$ to 3 chains situated at the rear of and between two road frontages of residential "lots." The houses are sited facing the reserve, so that this becomes the perfect foreground for each front garden. Main footways only traverse the length of the reserve, to which access is given each residence by the extension of the house paths thereto. In operation, therefore, all foot traffic is removed from the contiguous road areas, which, in effect, become traffic lanes only. Though all back gardens do adjoin the road area, they are totally screened from the general vista by mass planting the original grassed areas with small trees and shrubs.

Lastly, but probably most interesting to tree-lovers, comes that class termed "plantation reserves." These are variable in area from very small to very large, and occupy those portions of the area under development which

through contour or other physical disability are unusable for any other purpose. They are mostly located on the steeper slopes and gullies of the hillsides in the environs of Auckland, Wellington and Dunedin, areas which under usual procedure become fire hazards or rubbish dumps. The conversion, therefore, of these areas to the purpose envisaged will not only remove this danger but will also eventuate in a sylvan setting for the scheme on tree-clad slopes. The term "plantation reserve," conjuring a vision of rows and rows of the ubiquitous *Pinus insignis*, is rather misleading. It is the correct designation, however, but the planting programme envisages the massed grouping of native flora interspersed with grouped exotics for relief and effect—an entirely different vista from that of a preconceived plantation.

FUTURE EXPANSION

It is regrettable that though housing operations have been under way for eight years, few of the reserve areas have as yet been developed to fill their ordered function. That this is due entirely to the demands of the country's war effort will be realised. The areas of land required for reserve purposes in each occupied housing scheme are there awaiting development; it is only a question of opportunity. With the clearing of the war clouds from the horizon, it is confidently anticipated that the Reserve Development Programme now in operation will gather speed, eventuating finally in the formation of these areas contemporaneously with the erection of the contiguous house units.

From these remarks an insight will be gathered of the planning requirements of only a very small section of the Department's activities. As such, however, it is indicative of the vast amount of planning required for the overall work of housing from the acquisition of land to the finally completed housing scheme. Though it has planted over two and a half million trees and shrubs, the Department has as yet merely rippled the surface of its preconceived plan of tree-planting operations.

With the anticipated increase in the building programme in the post-war years, plus the need to complete the tree-planting proposals which through force of circumstances have been postponed, the planting programme will be greatly accelerated. With this in view the Department has already arranged for the growing of three million trees between now and 1947—a utilisation of tree stock in such vast quantities in number, variety and type that could be supplied as required only by a very long-term planning of nursery production with the full co-operation of the industry concerned.

NEW ZEALAND SHRUBS

UNDER the above heading the following article appeared in "The Dominion," Wellington, on June 28, 1945:—

"FEATURE OF PUBLIC PARK IN GLOUCESTERSHIRE

"New Zealand flowering shrubs presented by the people of Temuka are to be a feature of a garden of remembrance surrounding a memorial to the men and women of Lydney, Gloucestershire, who have served in the present war. Lydney is the home of Viscount Bledisloe, Governor-General of New Zealand from 1930 to 1935.

"The garden will be in Bathurst Park, the original 15 acres of which were presented to Lydney 53 years ago by Lord Bledisloe's father. Lord Bledisloe, on the occasion of his 75th birthday in 1942, presented an addition of about 2½ acres, which is to be used for extending the park's sports facilities. At the same time plans have been made for the erection of a war memorial. On the path leading to the memorial there will be, besides a sunken garden consisting of a lily pool and flower beds, four beds in which will be planted the New Zealand shrubs."

THE GARDENS OF ENGLAND

WHETHER he be an admiral or a merchant, artist, explorer or Prime Minister, one ambition is common to almost every Englishman—to end his days in his own garden where he may tend his flowers and vegetables, worry about the weather, the greenfly and destructive rabbits, and indulge in learned gardening gossip with the neighbours. Of all the passions that fill the Englishman's breast none is deeper than that for gardening.

In relation to its size and population Britain possesses a greater number of private gardens than does any other country in the world. To know the Englishman thoroughly you have to meet him in his garden where, dressed in his oldest, baggiest and most-stained clothes, he escapes from the tyranny of all conventions and reveals his true nature.

When thinking about crops, the position of new trees and colour schemes in the flower borders, he can give full play to his imagination and to his perennial boyish enthusiasm, which, in ordinary life, however, he keeps well hidden.

The Englishman has never severed his ties with Nature. In fact, the further away modern life removes him from Nature, the more passionately he hankers after her. In working his own bit of garden, he re-establishes that contact with the forces and the laws of Nature that he feels to be indispensable for a healthy and happy life. As a result of this, England now provides examples of practically every type of garden known in the western world.

There still exist Elizabethan gardens with formal paths and trimmed hedges; classical gardens with antique statues glowing white and serene against the deep emerald of ancient trees and with little temples crowning decorative hills; formal gardens with broad avenues, fountains and geometrical flower beds similar to those so popular in France and Italy; landscape gardens which harmonise with the surrounding countryside and which show such naturalness that at first they hardly reveal the directing hand of the subtle gardener.

But whatever the fashion of the moment may have been, today the prevailing taste demands two things—privacy and naturalness. A garden well hidden behind walls or high hedges ensures the desired privacy. Formal and artificial arrangements, such as are found in Continental gardens, are alien to the British with their passion for freedom, individualism and informality.

The English gardener owes his main debt to his native climate. The frequency of rain ensures a rich vegetation. The first thing that impresses every foreigner about England is its unsurpassed greenness. The close proximity of the warm Gulf Stream that runs along the western and southern shores of the British Isles provides the country with mild temperatures throughout the year.

In the county of Devonshire, date-palms and other palms and many types of cacti grow outdoors throughout the year. In most parts of southern England people similarly grow fruit that is typical of the Mediterranean regions, such as peaches, apricots, grapes, figs, Spanish chestnuts, walnuts and even almonds.

Instead of planting flowers in ornamental beds—each given to only one or two varieties—the English prefer one very long and very wide border which contains a mixture of every type of flower. But to make a satisfactory herbaceous border calls for more ingenuity than one may imagine. Never between March and November should a border show empty patches; its numerous colours must match; and the flowers in front must be lower than those at the back.

Many of the large gardens in wartime Britain that surround a famous private castle, palace or house have sacrificed their magnificent lawns and herbaceous borders for more practical crops, chiefly vegetables. The cele-

brated gardens of King George VI at Sandringham have been given over entirely to horticulture and agriculture, and new vast cornfields now stretch right up to the entrance of the royal residence. The King's example has been followed by the entire nation.

The thousands of little gardens that can be found at the backs of most English houses are today full of beans, potatoes, cabbages, lettuce and spinach.

But the old trees are still there, and in some small corner room is always found for a few roses, delphiniums, wallflowers and irises. No world war can ever turn the Englishman into a purely utilitarian being or dim his passion for Nature, for the beauty enshrined in flowers and for the peace that comes from ancient trees.

—Rom Landau, in *"The Gardeners' Chronicle."*

COCKAYNE GOLD MEDAL

THE Cockayne Gold Medal, in memory of the late Leonard Cockayne, New Zealand's eminent botanist and Past President and Honorary Fellow of the Institute, is awarded by its examining board to the best diploma student of the year.

The award for the 1944 examination has been made to Mr. G. D. Hyde, who is employed in the Reserves Department of the Lower Hutt City Council. His prior training in an "approved garden" was in the Botanic Gardens, Christchurch. In the 1940 examination he received the J. A. Campbell Memorial Award for the best intermediate student. Presentation of the medal by Mr. Hope B. Gibbons, President of the Institute, was made at the annual meeting of the Wellington Horticultural Society in the Victoria League Rooms, Wellington.

Mr. Gibbons thanked the Wellington Horticultural Society and its President, Mrs. Knox Gilmer, for allowing the Institute facilities for public presentation of the medal in honour of New Zealand's world famous botanist, who gave the utmost assistance to the Institute at all times, notably in its foundation, constitution, legislation and educational programme.

Reference was made to the Institute's scheme of training and examinations under authority of the "New Zealand Institute of Horticulture Act, 1927," with a minimum of six years' theoretical and practical training before entry for the Diploma Examination. Thanks were expressed to honorary instructors and examiners and all who assist with the examinations. The President also mentioned that the recipient was a worthy son of a worthy father, Mr. W. C. Hyde, N.D.H. (N.Z.), formerly Horticulturist to the Horticulture Division, Department of Agriculture, Wellington.

Mr. G. D. Hyde, in expressing thanks for the medal, expressed the appreciation of the Institute's students in horticulture for the great assistance they were receiving from the Institute and particularly its founders and the present Executive Council and the Examining Board in the direction and assistance being given them in their studies and training and in the certification of work accomplished. It was realised, he said, that the service was honorary, continuous and whole-hearted, and had for its objective the advancement and appreciation of horticulture in New Zealand. It was an example which, he was sure, most students would endeavour to follow in the years to come.

OBITUARY

Mr. James Campbell McDowall, B.Sc., A.A.C.I., F.R.H.S.

BY the sudden death of Mr. J. C. McDowall at Rotorua on May 20, Taranaki has lost a most able scientist and one of its outstanding workers in horticulture. He had been for some years President of the Taranaki District Council and its representative on the Dominion Executive. He is survived by his wife and two daughters.

Born in 1888, Mr. McDowall was educated in Wellington. At Victoria University College, with already considerable experience in laboratory work, he became lecturer and demonstrator under Professor Sir Thomas Easterfield. His energy and enthusiasm were rewarded with a Sir George Grey Scholarship and the degree of B.Sc. At college he took a prominent part in student affairs and was president and life member of the Students' Association.

His work for his M.Sc. was interrupted by the outbreak of the Great War, when he was rejected for active service. His thesis on "Totarol," however, was published in the Transactions of the N.Z. Institute. On the suggestion of Professor Wood, of Cambridge University, with whom he hoped to work later, Mr. McDowall studied for a year at Hawkesbury College, N.S.W.

There followed seven years with Austral Bronze Company, a pioneer firm in non-ferrous metals, whose output had become of vital importance for war purposes. In 1918, Mr. McDowall spent six months in the United States in investigation work for his firm. He was a foundation member and a life member of the Australian Chemical Institute.

Resigning for health and family reasons in 1923, Mr. McDowall came back to New Zealand, and after a brief period in farming returned to the teaching profession, first at Christchurch Technical College and then for ten years at Stratford, specialising in science and agriculture.

In 1937, Mr. McDowall and his wife commenced the business of florists and horticulturists on the Oronoa Gardens property, with one-eighth of an acre of glass and two acres of flower garden. In conjunction with this they operated a florist business in New Plymouth. His tomato culture was a pronounced success, his improved strain of fruit being first on the early market.

With the outbreak of this war, Mr. McDowall generously offered to assist in the science department of the New Plymouth Boys' High School, two of whose science masters were overseas, and he was still engaged in teaching at the time of his death.

Mr. McDowall's enthusiasm and organising ability in horticultural matters were rewarded in the formation of the Taranaki District Council. While attending the National Horticultural Week in Auckland in 1936 he invited



MR. J. C. McDOWALL.

—Spencer Digby, photo.

members of the executive to come to New Plymouth and, with their assistance, the council was launched in that year. Acting as secretary and later as president, he was largely instrumental in building up a strong membership and in keeping the branch very active with monthly meetings and excursions, which were always well attended. During the war years, when conditions made these meetings impracticable, he worked tirelessly to keep Institute affairs in good shape so that activities could be resumed at the earliest opportunity. His energetic work in connection with the National Horticultural Week in New Plymouth will long be remembered. Mr. McDowall was an enthusiastic and earnest delegate at the recent National Horticultural Week, 1945, in Palmerston North.

Mr. McDowall's contacts with outside bodies with horticultural interests have done much to strengthen the standing of the Institute in Taranaki. He was a member of the Western Park Board, and representative of the Institute on the Taranaki Primary Production Council. His advice was much valued by the rehabilitation authorities.

At the New Plymouth High School, Mr. McDowall's horticultural club encouraged a large group of boys in an interest in gardening, and his plan of improvements covering a number of seasons will, it is hoped, be faithfully carried on.

During his years of teaching, Mr. McDowall inspired many hundreds of the younger generation to aim at a correct approach to the sciences, and he was most patient and generous in his encouragement of those who sought his help. His death will be all the more keenly felt at the present time, when his advice on the prospects of a horticultural career was being sought by many young men back from service overseas.

THE TEXTURE OF THE SOIL

OVER forty years ago the late Mr. William Watson, when president of the Kew Gardens Mutual Improvement Society, asserted that, "The texture of the soil is more important than the quality." No matter how rich the soil may be as regards plant food, if its texture is unsatisfactory the roots of plants fail to function properly, and the plentiful supply of plant food present cannot be made use of. Cultivation of the soil improves texture, but the soil soon reverts to its original condition if nothing more is done. Our forbears, at the time of Coke and others, realised this when the phrase, "Muck is the mother of money," was first coined; as they increased their livestock, so they increased the size of the muck-heap, which resulted in better crops.

With the passing of horses for transport and pleasure, we are compelled to find substitutes. Inorganic fertilisers are useless for improving the texture of soil, therefore in the absence of manure we must make use of whatever may be available. In my last post there was a huge rectangular building that at one time accommodated upwards of fifty horses, but neither I nor my predecessor was allowed any animal manure for the garden, the owners being advocates of "Clean culture." The grounds, however, were well wooded, and we were able to collect quantities of leaves annually, stacked them for a year, and used them in the garden the following season, with excellent results, but we gave small dressings of inorganic fertilisers to the growing crops at frequent intervals during the growing season, thus providing what was lacking in the organic material.

In my view the roots of most plants revel in leaf-soil, peat, etc. Adjoining these gardens are large areas of land covered with bracken, and during the winter I can collect quantities of peat-like material, which I find very helpful. The addition of such material in the soil not only improves its texture but increases its moisture-holding capacity. Therefore, I advise the happy medium in the use of both organic and inorganic fertilisers.

—T. A. Summerfield, Oakamoor, in *"The Gardeners' Chronicle."*

TREES AND SHRUBS

CASSIA MARYLANDICA

THE beautiful shrub *Cassia marylandica* is liable to injury by severe frost, although it will usually "break" quite strongly if the damage is not too great; nevertheless, a sheltered position is indicated, such as a warm wall or a bay between glasshouses; in the colder districts it is perhaps best to consider *Cassia marylandica* as a subject for a cool greenhouse. It is a deciduous shrub of vigorous growth, with pinnate leaves and terminal or axillary racemes of yellow flowers; the blossoms are decorated with dark purple anthers, and appear from July onwards. The racemes are many-flowered, shorter than the leaves; the leaves have eight or nine pairs of ovate-oblong, equal, mucronate leaflets, with an ovate gland at the base of the petiole.

C. marylandica was introduced from North America as long ago as 1723, and is probably the only hardy perennial species of *Cassia*; it should succeed, as already stated, in any but the colder districts, and is certainly worth a good position. It is not fastidious, and will thrive in any reasonably good well-drained loamy soil. Seeds, cuttings, and divisions afford ample means of propagation.

—Ralph E. Arnold, in "The Gardeners' Chronicle."

VIBURNUM GRANDIFLORUM

THE shrub *Viburnum Grandiflorum* has been described as "the cream of flowering shrubs." Whether this claim is justified is a matter of opinion, but it can justly be described as the cream of the *Viburnums*. A native of the Himalayan districts of Hazara, Chitral and Central Kashmir, the species was named *V. nervosum* by Hooker in 1858. It was reintroduced by R. E. Cooper in 1914, and was figured in "The Botanical Magazine," Vol. 150, as *Viburnum grandiflorum*. It forms a fairly large shrub, up to ten feet tall, forming strong, upright wood at the ends of the shoots. In order to maintain a bushy habit and prevent a straggly appearance, the leading shoots should be pinched back. Short, spur-like growths on the bare twigs carry the flowers. These are contracted into dense heads, and the fascicles are supported by a leathery, brown sheath. The pubescent bracts which appear are silky at the base.

The buds are a rich rose-pink, while the fully opened flowers are white, tinged with rose-pink. The individual flower is up to three-quarters of an inch in diameter, sweetly scented, remains open for several days, and is indifferent to frost. The flowering period ranges from mid-December to the end of February.

The leaves are downy in the bud, especially on the underside. They develop after the flowers, are elliptical-oblong in shape, densely hairy on the back, dark green above, obliquely nerved, and with a bronze sheen like that seen in *V. erubescens*. The leaves are up to four inches long, and are carried on red petioles.

A good loam and a half-shady position will ensure that this excellent shrub gives of its best.

—“*Cantab*” in "The Gardeners' Chronicle."

SYRINGA VESTALE

SO thoroughly is the lilac acclimatised and naturalised in this country, that it must be a matter of some surprise to many to be told that the ancestor of the ordinary garden lilac — *Syringa vulgaris* — is a native of central and south-east Europe. Both the white and coloured forms of this species are recorded as being in cultivation here as early as 1629. We can, therefore, understand the firm place this shrub has obtained in our affections. Curiously enough also, the main production of the many coloured forms has been effected by a French grower, M. Lemoine, of Nancy. These varying colour forms are the result of cross-pollination between colour forms within the species, and are not hybrids as is popularly supposed. This point was made clear by Mr. Hillier in 1938, during the conference on flowering trees and shrubs.

The colour range of these forms is wide, all shades of purple, red and

white; while there are both single and double-flowered varieties. The subject of this note is of a delightful white, attractive by reason of its freedom of flowering. The large trusses are held upright, not drooping, as with so many double forms, and are carried well clear of the bright green foliage. Rain does not discolour the flowers—the great drawback of the double white forms. In habit, the plant grows vigorously, but without sending up the masses of suckers which some forms do, such as *Congo*, and which prove such a nuisance. A specimen of *Vestale* here has thrown up only two suckers, unlike the variety *Congo*, which has had to be removed owing to its propensity to form suckers.

Given a good fertile loam, with a sufficiency of lime, and an annual dressing during the winter of equal parts of potash and superphosphate—the same fertiliser as is applied to my fruit trees—this bush is now some 8ft. tall and 5ft. through, clothed in May with delightful trusses of flowers at the end of every shoot. Immediately the flowers have faded the truss is cut away to allow the development of the two young side-shoots just below it, which in due course make flowering shoots for the next year. With this small attention, and cutting away misplaced shoots crossing over the centre of the plant, pruning is completed.

These young side-shoots which develop just below the flower truss afford good material for propagation. Taken, even before the flowers have faded, with the thinnest of heels and placed in a shaded sand frame, they will in a comparatively short time emit roots and be fit for potting. I prefer to place these newly rooted cuttings in an ordinary cold frame where they can be gradually hardened off.

By this technique one can avoid that necessity for grafting and the ensuing vain endeavour to keep down suckers from the stock. In the case of bush lilacs there is not the slightest necessity to resort to grafting and be bothered by all the evils consequent upon it.

—J. J. Brown, in "*The Gardeners' Chronicle*."

CONTROL OF INSECT PESTS

THE following Press Association message was forwarded from Auckland on June 22:—

"Having completed an investigation in Australia concerning the possibilities of securing parasites from the Commonwealth for use against the grass-grub in New Zealand, Dr. David Miller, chief entomologist to the Cawthron Institute, returned by air this week. Though that was the main purpose of his visit, Dr. Miller said that control of the grub through parasites was only one of many approaches to the problem at present being explored.

"'Apart from the grass-grub problem, there are several others of similar nature common to both New Zealand and Australia,' said Dr. Miller, 'and I was extremely fortunate in meeting Commonwealth entomologists from whom I have secured information of great value to the Dominion. For example, I was fortunate in attending a conference held in connection with the scope of certain new insecticides. These entomologists taking part were all men who have been engaged upon research on this subject, and the conference was therefore very successful.'

"One of the great problems in both countries was the control of the weed known as St. John's wort. From Australia, about 18 months ago, Dr. Miller continued, his department had received a supply of the beetles being employed there to combat the weed. Australian entomologists, and also Canadians, were extremely interested in the initial success of this insect in New Zealand. The white butterfly and diamond-back moth were much to the fore in both countries, and the great success scored against these pests in the Dominion was being keenly followed in Australia.

"Dr. Miller said he also took the opportunity to go into the question of control of timber-destroying insects which attacked young growing trees. He had also made himself familiar with the latest methods of mosquito control."

INSTITUTE NOTES

REPRESENTATIVE OF DEPARTMENT OF HOUSING CONSTRUCTION ON EXECUTIVE

IN view of the important place which is at present occupied by the Department of Housing Construction in horticulture by reason of the extensive planting programme which it has undertaken, the Executive extended an invitation to the Department to appoint a representative to act on the Executive Council. At its June meeting the chairman welcomed Mr. F. A. Jones, landscape architect, who had been appointed by the Director of Housing Construction as his representative, a choice which was warmly applauded by members. Mr. Jones's experience and background in horticulture have been particularly wide, and his association with the institute in this capacity will, we are sure, find the strongest support from our members.

INDISPOSITION OF MR. T. WAUGH, SENR., N.D.H. (N.Z.)

MEMBERS will regret to hear that Mr. T. Waugh, Senr., has been temporarily confined to his bed again after making a good recovery from his previous illness. We extend to him our sincere sympathy and hope for his speedy recovery.

PRESENTATION OF COCKAYNE GOLD MEDAL

THROUGH the courtesy of the president and officers of the Wellington Horticultural Society, the opportunity was taken at its annual general meeting early in June to present the Cockayne Gold Medal to Mr. G. D. Hyde, who achieved this honour at the recent examinations.

FINANCE

IN a determined effort to place the financial side of the Institute on a firm and stable basis as a medium for assisting it to implement the programme of reconstruction agreed upon at the 1945 annual conference, the executive appointed the following to act as a finance committee: Messrs. Hope B. Gibbons (convener), W. K. Dallas, L. V. Phillips.

The basic recommendations from this sub-committee at the June meeting of the executive were as follows:—

1. That the annual income should be advanced very materially from available sources.
2. That every effort should be directed to enhancing the value of the Institute's official organ, the Journal, the immediate effect of which would be a substantially increased membership, at the same time providing a general basis for a finance appeal.
3. That a long-term plan of activity should be drawn up at an early date in order that objectives can be charted and the work directed to better advantage, and that the current year should be one of consolidation, planning, etc., based on the programme set by the annual conference.

THE JOURNAL

THE present issue of the Journal represents the result of a policy adopted by the executive to raise the standard of publication and subject matter in order that it may be a worthier instrument for use in promoting the good work of the Institute. As a result of following this policy it is hoped that members will make the activities of the Institute more widely known and assist in building up a strong and influential membership.

LATE PROFESSOR LANCASTER

THE late Professor T. L. Lancaster, Vice-President of the Auckland Institute for many years, came to Auckland in 1913 as demonstrator in the Botany Department under the late Professor Sir A. P. W. Thomas, K.C.M.G. since then he has acted as leader of numerous botanical expeditions to Waitakerei

Ranges, Rangitoto, and many other points of interest near the city, as well as to Tongariro National Park, Waipoua Forest, and various other places further afield. Emphasis has constantly been placed on the urgent need for the preservation and cultivation of the indigenous flora and the evils resulting from indiscriminate deforestation.

In private travels Professor Lancaster studied the flora and plant communities in every province in New Zealand, and in 1926 commenced the establishment of the collection of New Zealand plants in the University College grounds. With the opening of the new Arts building in Princes Street in 1926 a considerable area became available for horticultural purposes, and immediate steps were taken by the head of the Botany Department to establish a representative collection of New Zealand plants. This now contains over 230 species, some of which are only very rarely seen in cultivation. This collection has not only made the University grounds a place of beauty, but it has been most valuable in giving students and also members of the general public a knowledge of native species and of their horticultural possibilities. The appreciation of the general public is shown by the number of visitors who take the opportunity of inspecting the plants, many of which are labelled. He has established a collection of over 60 of the uncommoner native species at his home.

In 1931 he was appointed honorary City Botanist and has used his influence in recommending the more extensive use of New Zealand plants. When the grounds of the Teachers' Training College at Mt. Eden were being planted some years ago, he was called in to give advice as to suitable species. Today the plantations in these grounds consist almost wholly of native plants, which have been of great value to student teachers in connection with nature study work. Thus through these teachers a knowledge of native plants tends to become disseminated. He has given encouragement and advice to large numbers of private citizens wishing to establish collections of New Zealand plants.

In 1930, while in England, Professor Lancaster received a special invitation from Mr. Gerald Loder to inspect his extensive collection of New Zealand plants at Wakehurst Place, Sussex. During the day spent there many photographs were taken and lantern slides made, which help to impress upon all students of the Department the very real regard which Mr. Loder had for "the incomparable flora of New Zealand."

Prior to the outbreak of the present war, Professor Lancaster was in touch with horticulturists, botanists, and botanical institutions in various parts of the world, including Australia, India, South Africa, Great Britain and Brazil. As a result of the supply of botanical material and seeds to these, a knowledge of New Zealand plants has been spread far beyond the boundaries of this country.

EXAMINATIONS

Examinations for the following are conducted by the Institute:—

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

EXAMINATION PAPERS

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

Address all correspondence to:

Dominion Secretary,

Royal N.Z. Institute of Horticulture, P.O. Box 33, Lower Hutt.

"AND THE SUBJECT IS CUCUMBERS"

By E. O. PETERSEN.

ONCE I overheard a customer in a large book shop ask for a really modern and complete gardening book, and especially for one giving a detailed account of up-to-date cucumber growing. A tall order in any case, but peculiarly regarding the latter part of the request, for the best and most detailed survey of the growing of cucumbers will not be found in the books for sale today.

Indeed, the most outstanding description of proven procedure upon this subject, after comparing 31 separate and distinct accounts, is to be found in Mawe's Dictionary. You will not be able to obtain a copy of this book by just walking into a book shop, for it was first published in 1778, and very few copies are now in existence. This weighty tome is such a quaint production that perhaps a few words about my copy may not be out of place.

The full title of the work is "The Universal Gardener and Botanist," and the authors were Thomas Mawe and John Abercrombie. The book, large quarto in size, is leather bound and has over 600 pages, but curiously they are not numbered. In appearance it resembles an old-style family Bible, an effect which is heightened by the pages being divided into two columns. Other singular features are the printing of the first word of a page at the foot of the previous one, and the use of the old style letter "s" which looks to us so like the present-day letter "f." Until one is used to the latter, some seemingly peculiar statements catch the eye—"fow the feeds" and "fome leaves are ferated and fawed," and such like. However, one soon becomes used to this.

GARDENER TURNED AUTHOR

Regarding the authors, Thomas Mawe described himself as "Gardener to His Grace the Duke of Leeds" and John Abercrombie as author of "Every Man his own Gardener." But this is on the title page only, and it is supposed that Mawe only lent his name to the project for a monetary consideration, and that the book was really written entirely by Abercrombie. This being the case, we must take a closer look at this working gardener turned author. He was the son of a market gardener near Edinburgh, and was born in 1726. History has little to say about him, but the Battle of Preston Pans was fought close to the wall of his father's garden, and John may be said to have had a box seat at that hectic affair.

His first position as a gardener was with Sir James Douglas, and he later married a relative of that gentleman. In 1770 he moved to London and settled between Mile End and Hackney. A fact worthy of mention is that he had a family of 18 and only two of them boys. The first book he wrote was "Every Man his own Gardener," and it is said that he was so afraid of failure that he paid Thomas Mawe £20 to allow his name to appear on the title page. That amount in those days would be considerable and few working gardeners with 18 children could find £20 today for such a purpose.

Abercrombie was a voluminous writer, and following his first work, which was a great success and went into many editions, he wrote "The Universal Gardener and Botanist," 1778; "The British Fruit Garden," 1779; "The Complete Forcing Gardener," 1781; "The Complete Wall Tree Primer," 1783; "The Propagation and Botanical Arrangement of Plants and Trees," two volumes, 1784; "The Gardener's Pocket Dictionary," three volumes, 1786; and quite a number of others of a like nature. All this writer's books deal with plants according to the Linnaean system—itself a quaint and remarkable affair—but one must not dwell upon that now, for the subject is to be cucumbers.

Even though a great amount of space or a large number of words be devoted to a subject, it need not follow that the matter has been adequately dealt with. Indeed, most subjects in the realm of gardening lend themselves readily to considerable padding, but Abercrombie wrote over 20,000 words upon

cucumbers, and it would be difficult to condense his effort. Further, we notice throughout that the writer's endeavour is to avoid anything in the way of repetition, and there are many notes to look up references in other sections of the book; thus, under "Soil" he writes, "See Composts," and under "Early Crops," "See Frames," and so on.

Perhaps I may come back to Abercrombie's system later, but just now I need only mention his list of varieties: (1) Common, rough, green prickly; (2) Short, green prickly; (3) Long, green prickly; (4) Early, green cluster; (5) Long, green, smooth Turkey; (6) Long, smooth, white Turkey; (7) Large, smooth, green Roman; and (8) Long, white, prickly Dutch. There is only one here that we do not meet with today, and that is the Early, green cluster cucumber, which is described as "a shortish fruit, remarkable for growing in clusters, and appearing early."

ORIGIN OF CUCUMBER

There appears to be much misunderstanding as to the country of origin of the cucumber, for since my recent mention of Pliny's reference to this plant I have been told by some readers that Pliny could never have seen a cucumber as it is a native of America and was not known in Europe until early in the fifteenth century. Something, therefore, should be done towards the clearing up of this point.

Vine-like plants bearing gourd-like fruits grew in Egypt, as is shown in Numbers 11:5. There the Israelites, wandering through the arid desert, longed for the fruits they had left behind in Egypt—"We remember the fish which we did eat in Egypt freely, the cucumbers and the melons." This may not refer to exactly the same thing that we know as a cucumber today, and it appears that the plant referred to is *Cucumis chate*, which bears a large, oval fruit approaching to the melon. However, it is grown to this day in the Levant.

Many passages occur in early Greek literature referring to fruits which may be either cucumber, pumpkin or melon, for some are described as being eaten in the young state, some that had to be cooked, and others which were honey-sweet when fully ripened. But Pliny relates that in Campania there arose accidentally a cucumber of the nature and golden colour of the quince, which was then propagated by sowing the seeds. A wonderful thing about these fruits apart from their size and shape, he goes on to relate, was that as soon as they were ripe they detached themselves from their stalk. Its Greek name was the same as that of the quince, namely "melon," and this in time became shortened to "melo." Thus we get *Cucumis melo*, the melon. Pliny was, no doubt, wrong in supposing that the melon was produced from the cucumber by a freak of nature, and it has been shown that the melon was originally native to Tartary and the Caucasus.

MENTION BY EARLY HERBALS

Some of the early herbals make mention of the medicinal use of the seeds of cucumber, pumpkin and melon under the collective title of the "Four Greater Cold Seeds," and this information had been gleaned from even earlier writers. Some appear to confuse these plants with the so-called wild cucumber, which is in truth a true cucumber and bears a close resemblance to the cultivated form in manner of growth, and in appearance of foliage, flowers and fruit. The wild cucumber is *Momordica elaterium*, and Richard Brook in his "Cyclopedia of Botany," published about 1840, says that it trails like the common cucumber. "The leaves are heart-shaped, slightly sinuated, veined, rough, reticulate and upon long foot-stalks. Flowers form in the axillae of the leaves, of a bright yellow. The fruit is a pome, divided into three cells containing many flat seeds, which when ripe, upon being touched, spirts the seeds covered with juice into your face, if you are not on your guard." The juice expressed from the plant was dried and used as a remedy for dropsy.

Referring again to Abercrombie, we find that *Momordica* or Male Balsam Apple is the wild spurting cucumber which "Hath thick, spreading, fleshy

roots, many trailing angular, rough stalks, branching and spreading two or three feet all around; garnished with large, heart-shaped, rough, grey leaves on rough, long foot-stalks; and at the axillae small yellow flowers, succeeded in the females by oval cucumber-like, hispid fruits that dart out their seeds with great velocity." This plant is native to tropical Africa and Asia, and the fruits are eaten by the Chinese, by whom they are known as La-Kwa.

John Gerard—*The Herball*, 1597—writes at some length on the cucumber, and gives some useful information about its culture, particularly as to forcing by means of hot-beds. He is most interesting when describing the "properties," and he says: "There be also certaine long cucumbers which were first made, it is said, by art and manuring, which Nature afterwards did preserve; for at the first, when as the fruit is very little, it is put into some hollow cane, or other thing made of purpose, in which the cucumber groweth very long, by reason of that narrow hollownesse, which being fitted up, the cucumber encrease in length. The seeds of this kind of cucumber being sowne bringeth forth not such as were before, but such as art hath framed; which of their own growth are found long, and oftentimes very crookedly turned." This calls to mind the present-day method that is sometimes employed by commercial growers to keep the long varieties, such as *Telegraph*, straight by placing a long glass cylinder about each fruit.

JUICE AS SKIN TONIC

The juice of the cucumber is still frequently used to clear and whiten the skin, and this idea is a very old one. Gerard says: "The fruit cut in pieces or chopped as herbs to the pot and boiled in a small pipkin with a piece of mutton, being made into potage with Ote-meale, even as herb potage are made, whereof a messe eaten to breake-fast, as much to dinner, and the like to supper; taken in this manner for the space of three weeks together without intermission, does perfectly cure all manner of sauce—flegme and copper faces, red and shiny ferie noses (as red as red roses) with pumple, pimples, rubies and such like precious faces."

Mention of herbals causes me to dip into what is perhaps the best-known of all these curious works. This is *Culpepper's Complete Herbal*, 1653, and many people who have never seen a copy will have heard about it. There was a time, of course—and this not so very long ago—when Culpepper's book was the last word upon the treatment of sickness and disease, even if today it is often described as "a quaint and amiable lunacy." Of cucumbers, he writes: "There is no dispute to be made but that they are under the dominion of the moon, though they are so much cried out against for their coldness, and if they were but one degree colder they would be poison. The best of the galenists hold them to be cold and moist in the second degree, and then not so hot as either lettuce or purslane." And so on for nearly a thousand words.

A curious note is given by Buckhardt, an Eastern traveller, who describes large, open fields of cucumbers growing beside the Jordan. He says that foxes, jackals and wild dogs are extremely fond of the fruits, and it is the custom to erect a hut for a watchman to stand guard against these marauders. This again recalls a Biblical reference, that of Isaiah when referring to the desolation of Judah—"The daughter of Zion is left as a cottage in a vineyard—as a lodge in a garden of cucumbers."

Even now I have not written anything about the cultivation of the cucumber, and I have not space left to repeat all that Abercrombie had to say, but perhaps you do not like cucumbers or, as the saying is, they do not like you, so if you really want a cucumber—just to see what this thing is like—you can easily buy one from your nearest greengrocer, and not be bothered with the growing of them at all.

ARBOR DAY

ARBOR DAY in New Zealand dates from 1892 when the Government decided that the first Wednesday in August should be observed for the planting of trees and shrubs on public and private property. It is recorded in the September, 1940, Journal that: "Under the inspiration of the late W. C. Nation, perhaps the first Arbor Day tree planting in New Zealand was carried out on April 6, 1892, in Greytown."

About 1916, during the World War period, Arbor Day ceased to be observed. The first official movement towards its reinstatement was early in 1934, when Mr. N. R. W. Thomas, Hon. Secretary of the Institute's Auckland District Council, wrote to the Under-Secretary for Internal Affairs requesting that there should be uniform observance of Arbor Day on the second Wednesday in July. A further letter was sent on May 24, 1934, after discussion with the Auckland branch of the New Zealand Horticultural Trades' Association, suggesting uniform observance throughout the Dominion on the first Wednesday in August each year. This was agreed to on May 28, 1934, by the Hon. J. A. Young, Minister of Internal Affairs.

Great credit is due to Mrs. Knox Gilmer, the esteemed president of the Wellington Horticultural Society, for the wonderful assistance which she gave towards the revival of Arbor Day. Reference should also be made to her great work in having the "Native Plants Protection Act, 1934," included in the New Zealand Statutes.

At the 1934 Arbor Day celebration at Wellington College the Governor-General, Viscount Bledisloe, received the annual award of the Loder Cup for his eloquent plea for the preservation of our forests and indigenous wild life, which has vastly helped in the care and perpetuation of our native bush.

An Arbor Day broadcast for the 1936 observance was given by Mr. J. G. MacKenzie, N.D.H. (N.Z.), Superintendent of Parks and Reserves, Wellington, on July 7, 1936, and this was published in the Journal, September, 1936.

In the Journal, September, 1937, reference is made to the usual circular which the Internal Affairs Department forwards to all local and other bodies interested in the celebration of Arbor Day. A summary of observances throughout the Dominion mentions about fifty cities and boroughs where official observances of Arbor Day had been held. This list has been kindly supplied by the Department of Internal Affairs.

The September, 1938, Journal contains a broadcast made on the eve of Arbor Day, 1938, by Mrs. Knox Gilmer, who has always been one of the most earnest advocates of Arbor Day.

The September, 1942, Journal, also includes a further summary of observances held throughout the Dominion in that year, but it is stated that the war had materially affected these functions.

It is pleasing to record that the Department of Internal Affairs continues to have Arbor Day gazetted for the first Wednesday in August, that it continues to send circulars to all interested bodies regarding its date and observance, and that Education Boards and their scholars keep up their interest in this national movement.

ROYAL NEW ZEALAND INSTITUTE OF HORTICULTURE (INC.)

OBJECTS

The objects of the Institute are as follows:—

1. To encourage, foster and improve every branch of horticulture.
2. To exercise all the powers and functions of a horticultural nomenclature and certificating board, including the making of decisions and reports in regard to the nomenclature of plants, and to issue, in the name of the Institute, certificates, medals or diplomas for novelties of merit or new varieties.
3. To assist and promote horticultural education in every way possible.
4. To promote legislation having for its objects the advancement or protection of horticulture.
5. To assist research work in connection with any or all branches of horticulture.
6. To endow or assist any chair, lectureship, or horticultural teaching in New Zealand, in colleges, universities or other educational institutions the Institute may decide upon.
7. To promote the interchange of horticultural knowledge and to co-operate with Governments, scientific or other societies or bodies, or persons in any part of the world who may be working along any or all of the lines covered by the objects of this Institute.
8. To undertake or assist in the introduction and acclimatisation of any fruit tree, flowering tree or plant, forest tree, seeds or other form of plant life which, in the opinion of the Institute, should be introduced.
9. To establish, assist or endow libraries, and to obtain by purchase, exchange, or otherwise, books, papers and other publications relating to any or all of the matters covered by the objects of the Institute.
10. To arrange for the carrying out of work of "bud selection," the testing of new varieties of trees, plants, vegetables and any and all things necessary to the better understanding of tree and plant life and the maintenance or improvement of the standard of such.
11. To arrange for the selection and breeding of any or all classes of trees and plants for testing, and for the supply of certificated propagating material to nurserymen and others on such terms as may be arranged.
12. To carry out, arrange for or assist any object or objects which, in the opinion of the Dominion Council or of the Executive, come within the scope of horticulture, in its widest sense (not excepting forestry or agriculture).

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