

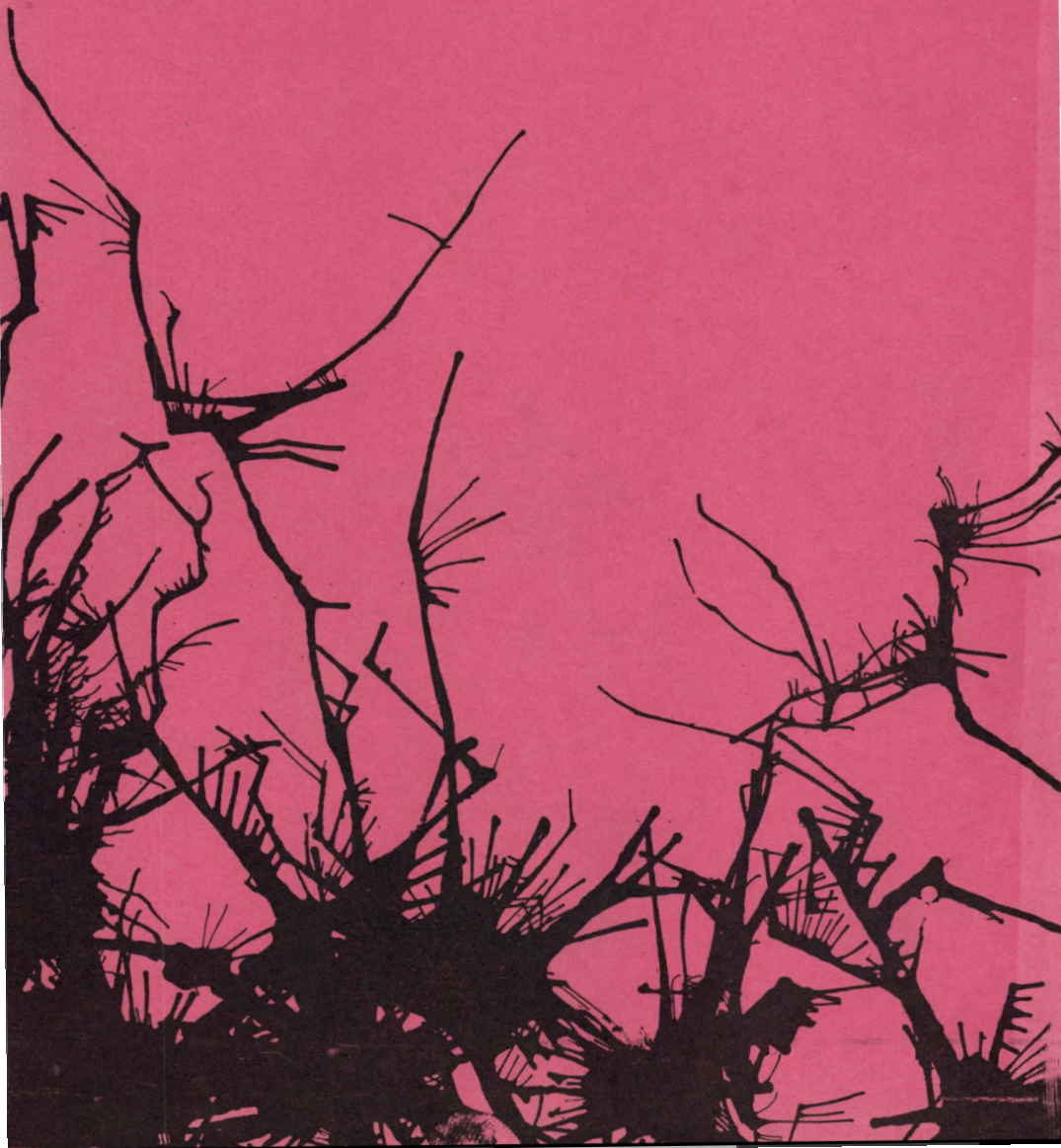
# 8

WINTER 1978

# Horticulture

in New Zealand

Bulletin of the Royal New Zealand Institute of Horticulture (Inc)



**HORTICULTURE**

IN NEW ZEALAND



BULLETIN OF THE ROYAL N.Z. INSTITUTE OF HORTICULTURE

## NUMBER 8, WINTER 1978

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Cover design by Michael Cole, drawings by Annette Scott.

ROYAL NEW ZEALAND INSTITUTE OF HORTICULTURE (INC.)

*Patron:* His Excellency the Governor General, Sir Keith Holyoake*President* : Dr. J.D. Atkinson*Chairman of Executive* : Mr. J.O. Taylor*Editor* : M. B. Thomas*Assistant Editor* : J. A. Thomas*National Secretary:* Mr. R.A. Foubister, P.O. Box 12, Lincoln College.

The Editor welcomes articles, letters and news items for consideration for publication. Deadline dates for material are: Autumn issue, February 20; Winter, May 20; Spring, August 20; Summer, October 20. Contributions should be addressed to the Editor, P.O. Box 12, Lincoln College. Views expressed in the Bulletin are not necessarily those of R.N.Z.I.H.

# Editorial

## A New RNZIH Diploma?

There are several horticulturists in N.Z. who have completed all requirements for the NDH(NZ) except for the thesis. Many of these people are prominent in horticulture, and for this and other reasons are highly unlikely to find the time or the inclination to do a thesis and be eligible for the award of an NDH(NZ).

The examination board recently suggested that these people are worthy of a qualification. Perhaps they could be awarded an Ordinary Dip. Hort. or O.D.H.(NZ), in recognition of their thesis-less Diploma. It seems desirable to recognise these people, and while they may not (in some eyes) be worthy of the NDH title, an alternative qualification such as N.Z. Diploma in Horticulture could be very appropriate.

Another suggestion is to award an NDH on completion of all examinations and to add Honours (NDH(Hons.)) when the thesis is completed. Existing NDH holders would have Honours added to their qualification. This is common for degrees and Honours are also awarded at Wisley (U.K.) for diploma students who pass with merit.

Some people however will strongly oppose the establishment of a special qualification for 'non-thesis holders', for fear of downgrading the existing NDH.

M.B. Thomas



surrounding prairie and partly as a result of a little T.L.C. (tender loving care) that is needed to produce plants in those climatic conditions.

## Notable and Historic Trees

Members will have noted in the Autumn Bulletin that the first tree has been officially registered under the Notable and Historic Trees Scheme, launched earlier this year.

The tree, a Common Ash (*Fraxinus excelsior*) was planted by one William Walker in 1873 on his property at Dunsandel, some 25 miles south of Christchurch on the Main South Road. William Walker was the local blacksmith at the time and the tree marks the location of the Smithy. In those early days the tree was used as a hitching post for horses awaiting service at the blacksmith's shop.

The tree, now 105 years old is a fine, well shaped, healthy specimen, standing 15 metres in height, with a trunk circumference of 2.82 metres, and a canopy spread of 20.72 metres. It is a notable landmark in the area and is deserving of being the first tree to be registered.

Application for registration of this tree came from Mr. R.J. Walker, the present owner of the property and a great-grandson of William Walker.

It was unfortunate that the Ellesmere County Council, the local body which administers the Dunsandel area declined to participate in the RNZIH Notable and Historic Trees Scheme, and in fact, declined to register this particular tree as an historic tree under the Council's District Scheme.

This attitude of the Ellesmere County Council differs considerably from the degree of cooperation evidenced by the many other Local Bodies throughout N.Z. which have expressed support for the Notable and Historic Trees Scheme.

District Councils and Members are invited to submit applications for more tree registrations under the Institute's Scheme and the appointment of Tree Registration Officers in all District Councils is urged, so that we do not miss the many opportunities there must be to preserve this part of our heritage.

# Eastwoodhill

## An Area of Coloured Splendour

JACK JONES

*This article appeared in the Gisborne Herald on May 4th, 1978 and was brought to our attention by Mrs. Agnes Cooper, president of the Poverty Bay Horticultural Society. We reprint the article with the kind permission of the Gisborne Herald.*

The time of the year is late autumn, to many the prelude to the bleaker days of winter, to the nature lover the right time to see shrubs, trees and foliage at their best in their autumn foliage in natural surroundings.

Most New Zealanders have to travel long distances to see this beauty. Gisborne people are fortunate that they can see it in its many coloured splendour so close to the city.

It can all be seen at Eastwoodhill arboretum, 22 miles from Gisborne towards Rere and accessible by a good road.

Autumn is the time to visit Eastwoodhill, when the oaks, poplars, maples, sycamores and many other varieties provide a delight to the eyes.

Spring is also a good period for visiting Eastwoodhill and the summer months are those most favoured by botanists and horticulturists to make their own private visits to an area which can provide endless and rewarding study.

Eastwoodhill's transition into a place of interest and beauty began when the late Mr. W. Douglas Cook came to Gisborne in 1910 and took up 682 acres of land secured in a ballot of a Ngatapa estate of 10,697 acres which had been subdivided.

Writing in the Journal of the Royal Horticultural Society in May, 1949, Mr. Cook tells of landing from a ship in Poverty Bay into a wicker basket and being swung from ship's derrick on to the bobbing deck of a tender far below, a state of affairs by no means unusual in the early days of Poverty Bay when all communication was by sea.

### First Planting in 1910

In 1910 Eastwoodhill, so named by its owner after his mother's home in Glasgow, was practically virgin land, some in English grasses, some in native grasses, but much of it covered in manuka scrub. Mr. Cook was the third owner of the property which had earlier been owned firstly by the Maoris and then by Williamson Brothers and Rose.

During his first winter on the property the new owner did some planting, but it was largely for practical purposes. This

comprised *Pinus radiata* and various species of eucalyptus, mainly for firewood, and an orchard of apples, pears and plums for household use.

From 1910 to 1914 planting was confined largely to trees and shrubs then available from New Zealand nurseries, plus, in his own words, "bits and pieces" given to him by friends.

In 1914 Mr. Cook was off to war, served on Gallipoli, was invalided home in 1917 and in 1918 started planting in earnest at Eastwoodhill. This included thousands of *Pinus radiata* on dry ridges, the trees being milled for timber.

New Zealand nurseries were supplying the shrubs and trees, but the going was not always easy. In 1920 a big consignment of trees and shrubs was brought in from Hawkes Bay, but a deterioration in the weather when half the load had been delivered meant that the bulk had to be delivered on sledges and packhorses over five miles of roads churned into mud.

For the next two years, Mr. Cook plodded on, adding to his collection in the area, and then came a new awakening and with it the birth of the real splendour of Eastwoodhill.

Planting came to a temporary halt in 1922 and 1924 when Mr. Cook was in Europe and when he saw much to admire at Kew Gardens, the Chelsea Flower Show and the gardens of country homes in England.

## The Real Start

His goal now was the creation of a park along the lines of what he had seen in England. In 1926 thousands of tulips, hyacinths and paeonies were imported from Holland and a year later the park planting really started.

The wide variety of tree planting was soon in progress and in the 1930s Mr. Cook commenced importing seeds and plants from Europe and America.

Overseas trips included visits to Europe, Great Britain, the United States, Canada and Australia. Major nurseries and arboreta figured prominently in his overseas itineraries and he also studied the layout and landscaping of many famous gardens.

The land at Eastwoodhill can best be described as undulating to hilly, with few areas of flat land. The portion known and admired as the "Daffodil Paddock" is the largest of the flat areas.

There is a wide range of temperatures at Eastwoodhill, where the garden starts at about 400 ft. above sea level and runs up to about 700 ft. This posed some problems, but it also provided alternatives under which a tree or shrub which proved to be frost tender could be moved to a higher level, where it would thrive.

## Well Defined Areas

Eastwoodhill is divided into several more or less well defined

areas, each given a name. There has been a tendency to group plants of the same genus together giving the sections individual characteristics.

As an example, the area known as Block Forest has a stand of Japanese cedars and other conifers, with a group of alpine ash adjacent.

Cabin Park has camellias, rhododendrons, azaleas, magnolias and a few rare plants mostly planted before 1939 and nearby is a small section of native trees planted about 1934-35.

The Circus has a variety of maples and rare plants, with several artificial lakes with waterlilies.

Near the main entrance Corner Park represents some of the earlier planting from 1918 to 1920.

The Daffodil Park has already been mentioned: it covers about a hectare, surrounded by a variety of conifers, with a few other trees and shrubs.

Douglas Park has tracks winding along both sides of a gully, more waterlily ponds and contains the main collection of oaks, seen at their best in the autumn, camellias, rhododendrons, lilacs and other plants. Conifers, mainly Douglas Fir, are on the ridge crests.

The Garden area displays many varieties of camellias, azaleas and other trees, shrubs and climbers.

Glen Douglas, planted about 1960-61, is the most recent addition to the arboretum and contains the main *Sorbus* collection and other varieties.

Orchard Hill has block plantings of widely spaced specimens of fir, holly, pine, spruce and a few cherries, maples and magnolias planted about 1947 to 1949.

Pear Park, planted mainly in 1947-51, has groups of ash, hawthorn and junipers and the Theatre has a few oaks planted about 1938, plus other trees of interest.

Summing-up his paper to the Royal Society Mr. Cook said that as long as there were rare and beautiful trees to be procured they would be sought for. He could reasonably be said to have succeeded beyond his wildest dreams.

Over the years Mr. Cook acquired a horticultural and botanical library of 845 volumes, unbound periodicals and several hundred documents. This is housed in the H.B. Williams Memorial Library and is a collection of national importance as some of the items it contains are unique in New Zealand.

Try to imagine just what cataloguing each plant, tree and shrub at Eastwoodhill would entail. One man did it and produced a complete record of what is there.



He is Bob Berry, a sheepfarmer at Tiniroto whose interest is in botany. Despite his modest denials Mr. Berry rates as one of the top botanists in New Zealand. He is a member of the Royal New Zealand Institute of Horticulture.

Bob Berry still had his work to do on his own property, but he found the time to spend two years of part-time effort preparing his first catalogue of Eastwoodhill. As a botanist he had keen interest in what was there and felt that it was time it was placed on record.

He produced the first result of his exhaustive research in 1972. And his latest catalogue, published this year, lists in detail all that is to be found at Eastwoodhill, plus an updating of botanical names.

It is a credit to its author and rates as a milestone in botanical research by a man who made the time to do it all.

The 1978 catalogue records that the area of Eastwoodhill is now approximately 130 hectares, about half of which is occupied by the arboretum and the remainder farmed.

Time was beginning to catch up with Mr. Cook and running costs of Eastwoodhill mounting. An effort was made to sell the property to the New Zealand Forest Service, but was unsuccessful.

## Future Assured

In 1965 the property was sold to Mr. H.B. Williams. Two years later the man who founded Eastwoodhill died.

What was to be the future of this magnificent national heritage: Hopes that the Royal New Zealand Institute of Horticulture would take it over were not realised, but after long negotiation the future was assured in 1975 when the Eastwoodhill Trust Act was passed and Mr. Williams gifted the property to the Eastwoodhill Trust Board set up under the act, ensuring that the arboretum would be preserved for posterity. The board took control on September 1, 1975.

Expressed purely in statistics, there are at present approximately 340 genera of trees, shrubs and climbers at Eastwoodhill, comprising over 2600 species, natural varieties, hybrids and cultivars. Practically all are of northern hemisphere origin, with a few from South America and Australia.

How does Eastwoodhill rate on a world scale? The answer to this question is in the award of a plaque given by the International Dendrology Society for merit as an arboretum.

The society is based in Britain and has members all over the world and the award of a plaque of this nature is a rare honour.

Eastwoodhill is open to the public from 10 a.m. to 4 p.m. on Saturdays and Sundays from August 1 to May 31.

Maintenance costs for the arboretum including the salaries of people working there, are borne by the small profit resulting from the farming operations, the income from a small endowment fund set up by private wellwishers and from the small charge levied on visitors.

Eastwoodhill has so much to offer to the botanist, it has been used for years by the New Zealand Forest Service and the Department of Scientific and Industrial Research for research purposes and it brings pleasure to those who have seen it in all its glory.

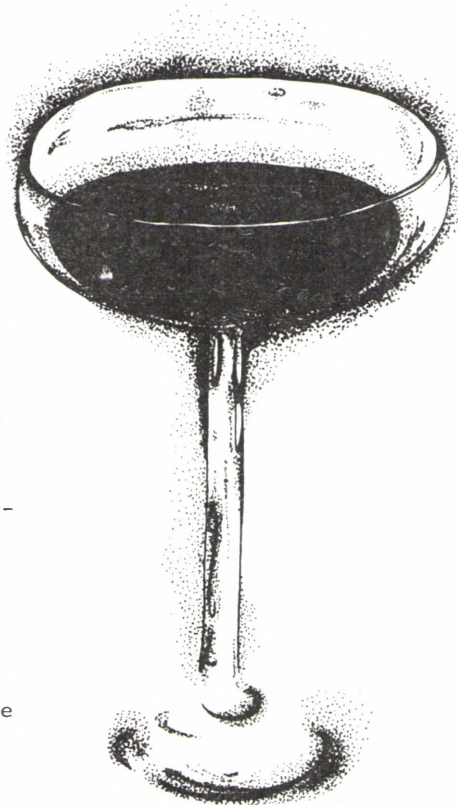
Perpetuating the part of our national heritage is the task of this and succeeding trust boards and they will not fail in this duty.



# Grape Harvest at Lincoln College

This year the small vineyard at Lincoln College has produced its first substantial crop, now that a number of the 60 varieties in the collection are mature. The season was a good one, although the rains in April prevented it being a vintage. A number of varieties show promise for Canterbury conditions, these include: Pinot Noir, Pinot Gris, Gewerztraminer, Grey Riesling, Pinot Blanc, Riesling Sylvaner, and for warmer situations Rhine Riesling.

From these grapes, wines are being made and the public may have a chance to taste some of them at a Seminar planned for November this year.



# From the Secretary's Diary

## Annual General Meeting

MAY 27 1978

While attendance by members was not particularly high, those present were representative of a good cross-section of the Institute, both from a commercial and District Council point of view. It is appreciated that distance from Wellington prevents the attendance of many members, and consideration will be given by the National Executive to the possibility of holding future A.G.M.'s at differing locations, so that a greater number of members are given the opportunity to attend.

The Agenda for the 1978 Meeting was shorter than in some past years, but this did not detract from the interest shown in the items that were covered.

### ANNUAL REPORT

Particular interest was shown in the Chairman's Annual Report, which covered a year of administrative change within the Institute. These changes affected the continuing efficiency of the administration in the first half of 1977, but by the year's end it was apparent that the decision to move the Office to Lincoln was more than justified both in terms of efficiency and economy.

Although there were some difficulties in accounting procedures, caused by the Administrative change, the financial position of the Institute continues to be sound. The advent of student membership in 1978, together with increased Government Grant for students and reduced administrative costs, indicates that the 1978 year will be even better, and will permit an improvement in the services rendered to members.

### EXAMINING BOARD

The Examining Board Report generated a good deal of discussion mainly concerning the need to provide adequate training for students, particularly in the practical working situation. Employers could assist greatly in this, by giving students the opportunity to gain experience in the full range of practical horticulture. In the long-term, the appointment of an Institute Training Officer seemed desirable but in the meantime much assistance could be given to students by District Councils on a local basis.

### DISTRICT COUNCIL REPORTS

Reports received from Bay of Plenty, Auckland, Wellington, South Taranaki and Canterbury District Councils outlined individual

activities during the year and were indicative of the interest these Districts have in the affairs of the Institute.

#### ELECTION OF OFFICERS

His Excellency Sir Keith Holyoake has been invited to become Patron of the Institute in keeping with the tradition of having Governors-General in this honoured position.

Dr. J.D. Atkinson was elected President and Mr. T.H. Warburton as Vice-President.

Mr. J.O. Taylor was elected Chairman of the National Executive, replacing Prof. T.M. Morrison, who has taken over Chairmanship of the Examining Board, following the retirement of Prof. H.D. Gordon.

Mrs. W. Shepherd was elected Deputy-Chairman of the National Executive.

#### ASSOCIATES OF HONOUR

The award of Associate of Honour - AHRH(NZ) - was conferred upon Miss Patricia Bates of Hamilton, and Dr. J.D. Atkinson of Auckland. These awards mark the long and valuable service given by the recipients and in presenting the citations, Mr. J.O. Taylor thanked them both on behalf of all members for the personal contributions they have made to horticulture over the years.

Mr. Percy Everett - F.R.I.H. (NZ) - was elected an Honorary Member in recognition of his association with the Institute over many years.

REMITTS: Only two remits were put forward this year.

Remit No. 1: "That the National Executive be asked to reconsider its decision to discontinue the Award of Garden Excellence" - put forward by Miss J. Dingley, resulted in some spirited discussion on the merits of the A.G.E. scheme as compared with the more recent proposal to introduce a Plant Evaluation Scheme. A good deal of time was devoted by speakers, for and against the remit, and it was only by a narrow margin that the remit was not passed. It was agreed by the Meeting, however, that the Award of Garden Excellence be held in abeyance, and endorsement was given to the Plant Evaluation Scheme proposals.

Remit No. 2: "That the RNZIH look into the question of increasing publicity and recognition of its Diploma Courses" - put forward by Whangarei District Council, was well supported and passed by the Meeting.

Prior to the luncheon adjournment, a presentation of a bedside lamp was made to Prof. H.D. Gordon, received on his behalf by Mrs. Gordon, who was the guest of Members to lunch. In making the presentation, Prof. Morrison paid tribute to the exceptional contribution made

by Prof. Gordon, particularly in his role as Chairman of the Examining Board for over 20 years. In reply, Mrs. Gordon gave some insights into the life of her distinguished husband, including some anecdotes connected with his early academic career. The meeting expressed its appreciation by acclamation.

Other items of general interest were discussed, including RNZIIH support for the preservation of the Podocarp Forests in the Taupo area, and full endorsement of the Notable and Historic Trees Committee's work in having notable trees registered and protected.

Perhaps this report on the A.G.M. could be concluded with the comment that if the enthusiasm and interest in the Institute displayed by the relatively few members present were supported by the presence of many more equally enthusiastic members, then the future of the Institute as a centrepoint for Horticulture in New Zealand would be assured.

*Readers please note -*

*Keith Lemmon's new address is :*

*P.O. Box 5113,  
Terrace End,  
Palmerston North.*

*His residential address is :*

*54 Epsom Road,  
Palmerston North.*

*Keith remains Secretary of the Loder Cup Committee*

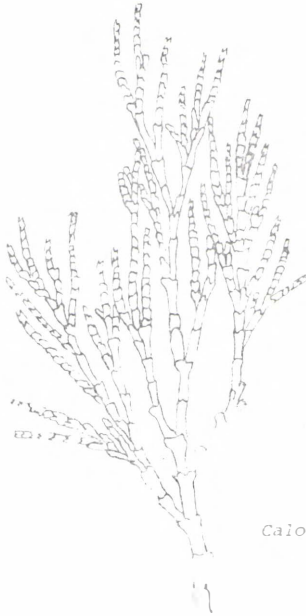
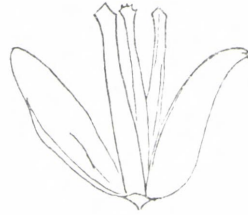
# Know Your Conifers -- 4

M.B. THOMAS

Drawings by B.V. McCartney

## Calocedrus

3 pairs of imbricate  
cone scales, inner  
pair fused into a  
single plate and  
sterile.



Foliage not very aromatic  
wood light in weight and  
aromatic. Branchlets flattened.

*Calocedrus decurrens*

*C. decurrens* (previously *Libocedrus decurrens*)

- Incense cedar of California
- Has very upright columnar habit and is consequently popular for landscape plantings in Europe. Grows to 17m.

(FOOTNOTE - the botanists have had a field day because *Libocedrus chilensis*, the South American species, is now in a new genus and is called *Austrocedrus chilensis*! and the New Guinea species are now named *Papuacedrus*!)

Libocedrus

2 pairs of valvate  
cone scales -  
inner pair not fused  
in a single plate,  
fertile.



Foliage not very aromatic  
wood light in weight and  
aromatic. Branchlets flattened.

*Libocedrus plumosa*

This genus contains 2 N.Z. native trees.

- *L. bidwillii* (Pahautea, cedar) has handsome upright habit and grows to 17m.
- *L. plumosa* (Kawaka) the best known of the 2 species for horticultural planting. An erect symmetrical tree growing to 17-30m.

Both species make good pot plants.



Thuja

4-6 pairs of imbricate  
cone scales. Innermost  
pair sterile.



Foliage usually aromatic -  
if not, the branchlets in  
vertical planes.

(*T. orientalis*)



*Thuja plicata*

3 out of the 6 species in the genus, are commonly grown.

- *T. orientalis* - Chinese Arbor-vitae - an erect growing tree to 15m. There are several smaller growing cultivars e.g. *T.orientalis* 'Elegantissima'
- *T. occidentalis* - American Arbor-vitae. This species includes ornamental cultivars including 'Ericoides' and 'Rheingold'.
- *T. plicata* - a valuable shelter tree. There are a few golden forms which are slightly slower growing than the parent species e.g. *T. plicata* 'Old Gold'

# Turf Care in Winter

M.J. CAPSTICK

One of the most neglected areas of the garden in winter is the lawn. People spend a great deal of time in mowing, and even weed control, to obtain a well trimmed lawn, but then ignore the area totally in the winter months. The continuous use of a lawn area causes considerable compaction and a subsequent lack of air to the root zone of the turf.

Two main operations are usually carried out to alleviate this problem.

- a. Scarification - a surface aeration
- b. Aeration - a sub-surface aeration.

## Scarification

This operation is carried out in early winter as soon as mowing operations cease. It is done for three reasons.

1. To remove dead matted material (grass and moss) from the lawn surface.
2. To assist surface aeration.
3. To assist in weed control.

It is vital for removal of certain weeds, i.e. clover and creeping buttercup and with 2. it assists the entrance of air and mineral matter, and enables fertilizers to be utilized effectively by the sward.

The operation can be done by hand or machine, but is usually done by hand in home garden situations. By hand, a special form of wire-rake or 'Springbok' is used. The action is the same as normal raking except that more downward pressure is required to remove the matted grass. The rubbish is collected up afterwards with a normal rake and should not be composted unless it is well made.

## Aeration

Aeration is utilized to break the crust, which forms on the surface beneath the turf, through the action of rainfall, general maintenance and foot traffic. This crust prevents air, water and plant foods from reaching the root zone of the grass. The root system then becomes limited and unable to draw on moisture and nutrient reserves deep in the soil. The restricted roots are then

unable to support vigorous top growth and the vigour of the desirable and deeper-rooted grasses declines, and conditions become ideal for invasion by shorter and surface rooting weeds and weed grasses. Aeration therefore is a means of maintaining soil porosity and encouraging deeper and more vigorous root action.

To aerate means to rake holes in the turf to a depth of 75 - 100 mm. These vary in diameter according to the degree of aeration necessary.

A simple means of aerating a home lawn is to push a large garden fork into the turf to the required depth of approximately 100 - 150 mm centres over the whole lawn. For machine aeration three types of tines are available.

- a. Solid tines
- b. Slit tines
- c. Hollow tines.

The solid tines are short, aimed at giving light aeration. Slit tines are required to relieve compaction, and hollow tines are for improving established lawns, relieving compaction and to assist in aeration.

Aeration follows scarification and these are followed by top-dressing, a subject in itself. It must always be remembered that these operations must be done annually to maintain a healthy, vigorous, pest and disease free sward of grass.

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## *Contributions Please*

*In order to continue this publication contributions of material are urgently required. We welcome any articles of horticultural interest, news items, letters to the editor, horticultural cartoons etc. and the length can be anything from a few sentences to several pages.*

*Perhaps each District Council could ensure we receive at least four contributions a year from its area. This would give us an additional twelve items for each Bulletin and increase the value of the publication tremendously. We anticipate your support!*

# RNZIH Executive Member Honoured

Mr. R.J. Ballinger, of Blenheim, has been made an Officer of the Order of the British Empire(O.B.E.) for services to horticulture and the community.

Mr. Ballinger is well known and highly respected in horticultural circles within New Zealand and overseas. Between 1946 and 1949, he organised the development of a vegetable research section at Lincoln while he was employed by the Department of Scientific and Industrial Research Crop Division.

In 1949 he established a private plant research property at Blenheim and began intensive production of asparagus nine years later. In 1966 he began air freighting asparagus to Australia, South-East Asia, and Britain.

Mr. Ballinger is also a leading commercial flower grower and is widely known for his work on roses.

## New Associates of Honour

At the recent Annual General Meeting of the Institute two distinguished horticulturists were made Associates of Honour. They were Miss Patricia Bates from Hamilton and Dr. J.D. Atkinson from Auckland.

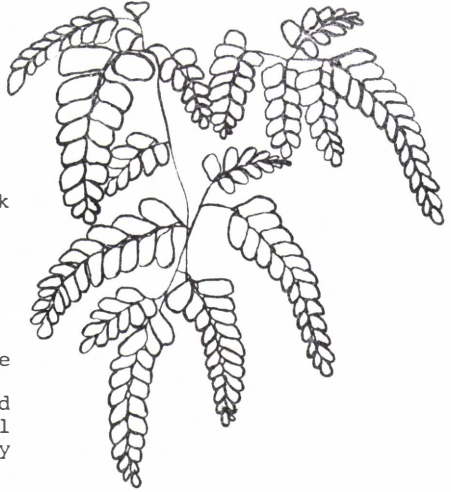
Miss Bates, an expert on camellias and rhododendrons, has worked for the Department of Agriculture for nearly 30 years. She has done extensive botanical research and has made contributions to the development of restiad peat bogs in New Zealand.

Dr. Atkinson has received world-wide recognition for his research on fruit tree diseases. He was awarded a Doctorate of Science after writing the book "Diseases of Tree Fruits in New Zealand." Although he is now retired he continues to be active in horticulture and is president of the Institute.

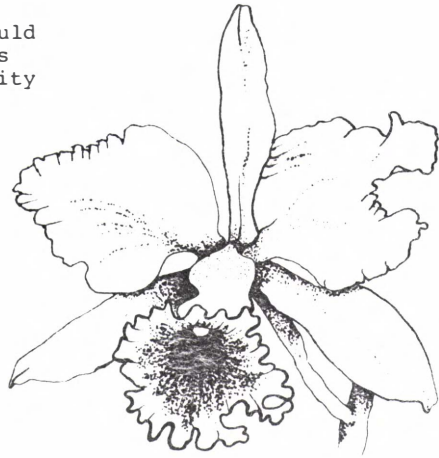
# Tutukiwi Orchid and Fern House

## LOWER HUTT

The construction of the Tutukiwi Orchid and Fern House has been a Hutt Rotary Club community service project. Prominent Hutt Valley horticulturist, Mr. Herbert Poole, recently donated his very valuable collection of orchids to the City of Lower Hutt. As the City had just lost the Jubilee Park Fernery because of Motorway extensions it was decided by the Rotary Club to construct a building in which the public could view both ferns and orchids, including the Poole collection. A site next to the Dowse Memorial Gallery and the Gibbs-Watson Conservatory was granted by the City Corporation and with the enthusiastic help of local businesses and societies the Rotary Club went ahead.



To encourage the involvement of the public, a group known as "Friends of Tutukiwi" is being formed. Anyone interested should write to the Parks and Reserves Department of the Lower Hutt City Corporation.



# Tree Planting in NZ Today

JOLYON MANNING

*Extracts from a paper written in November 1977.*

The successful launching of the New Zealand Tree Crops Association three years ago is a significant event in our time. It serves to illustrate the general upsurge in tree-planting for profit and amenity and represents a move away from the widespread pre-occupation with conservation of a dwindling resource of indigenous hardwoods.

For some it symbolises a resentment with the Radiata Pine monopoly in timber production with its associated drabness and uniformity of visual impact. For others it offers the stimulus and excitement associated with the introduction (or re-acquaintance) of new species and a recognition of two-tier cropping.

But the recent developments suggest the need for a review of the role of the various interested government agencies and some amalgamation of sister organisation groups at the regional level to avoid over-burdening of a limited technical personnel resource.

## Renaissance in Tree Planting?

Recent events point to a major upsurge in interest throughout the community in tree-planting. Some of the highlights are listed:

- \* Conservation movements such as Ecology Action have often been associated with local tree-planting projects with emphasis on native species.
- \* Landscape Associations have been established which serve to reinforce interest in the place of trees that match the scale to postwar building programmes.
- \* Large-scale public works projects such as university complexes, motorway construction, hydro-electric schemes, modern airports etc. have attracted greater investment by way of beautification than previously was the case. This has been a direct response to increasing public awareness in the first instance, followed up by accelerated initiative on the part of the professional specialists employed by government and public agencies.
- \* Willingness by some private sector industrialists to invest in scenic amenities in the interest of better industrial relations with territorial local authorities and staff.
- \* Town-planning departments more conscious of need to introduce bold landscaping to match the scale of re-development or urban renewal schemes.

- \* Response to expansion in tourism and increased awareness that New Zealand lags behind many other countries in its employment of trees in the cultural landscapes.
- \* General change in fashion from the maintenance-free 'scree garden' towards the re-introduction of large trees that match associated buildings in scale.
- \* Wider understanding of the value of trees in the urban settlements for separating industrial and associated pollution from residential zones etc.
- \* Expansion of educational courses that promote a better understanding of the place of trees in our midst.
- \* Slowing down of mobility and internal migration with greater emphasis in long-term commitment to the local community and the quality of its natural and cultural environment. More time to enjoy the amenity value of trees.
- \* Widespread occupation of 10-acre block sub-division by urban dwellers keen to introduce tree scapes into the rural setting.
- \* Accelerated interest by farmers and rural property owners in amenity value of trees and opportunity to earn additional income.

## Associations and Groups for Tree Lovers

The number of specialised agencies whose basic objectives are concerned with the welfare of trees and the encouragement of planting is still expanding. A short list might include the following:

- \* The Royal New Zealand Forest and Bird Protection Society Inc.
- \* The Royal New Zealand Institute of Horticulture Inc.
- \* The Men of the Trees (N.Z.) Inc.
- \* The New Zealand Farm Forestry Association Inc.
- \* Landscape Association of New Zealand Inc.
- \* Ecology Action
- \* The Rhododendron Society Inc.
- \* The New Zealand Tree Crop Association Inc.
- \* The New Zealand Institute of Foresters Inc.
- \* The Tree Society of N.Z. Inc.

In addition there are many horticultural, home garden and tree-planting groups.

The emergence of the N.Z. Tree Crop Association highlights the growing interest in trees outside the range of species that have attracted most interest in production forestry, namely pines and eucalypts. In particular nut trees and certain fruit trees (outside the present commercial crop species) have attracted considerable interest. National membership is reputed to be about 1,000.

During its 20 years of activity the N.Z. Farm Forestry Association has gathered about 3,000 members throughout New Zealand and it has approximately 20 active branches, conducts periodical 'field days' and organises a 4-day annual conference with talks and field trips. Its quarterly journal provides an effective communication link with members and reinforces farm forestry incentive programmes that are undertaken as part of the N.Z. Forest Service Extension division.

The Royal Forest & Bird Protection Society have concentrated on the preservation of the rapidly diminishing native forest reserves and have had strong support from COENCO and Ecology Action. The Institute of Horticulture has taken an active interest in the recording and preservation of notable and historic trees - both native and exotic. This group provides professional direction to the local body parks and reserves departments too.

The Men of the Trees organisation whose prime objective has been to kindle interest in the planting of trees on barren and neglected districts, has given way to other groups and public agencies now more willing to face up to these challenging tasks. The writer is the last elected President of the Men of the Trees organisation.

The Landscape Association has concentrated on community development and urban renewal projects with some emphasis, where appropriate, on the nurturing of distinctive historic places. That real trees deserve a place in the planning processes is now better recognised by the planning profession.

The Arbor Day activities of earlier times and the experience of many New Zealand tourists seeing what could be achieved by programmes already adopted in overseas countries, may account in part for the resurgence in tree-planting interest in urban districts whilst more adequate documentation of the value of shelterbelts for production and amenity have heightened farmer interest.



# The Examining Board

Now that students registered for RNZIH examinations are also members of the Institute, it will be of interest to them particularly, and also to other members, to be informed of the Examining Board report to the Annual General Meeting.

The Report was presented by the Chairman, Professor T.M. Morrison, and covered the activities of the Board during 1977, and to May 1978.

Appreciation was expressed for the services given to the Board by members, who collectively represented a full cross-section of employers in the field of horticulture, together with representatives of the Universities and the Technical Correspondence Institute.

One of the main concerns of the Examining Board is to ensure that adequate training in horticulture is given to young persons seeking a horticultural career, and strong support is given to establish training schemes through the Agricultural Training Council, while at the same time maintaining the apprenticeship system of training.

District Councils are being circulated with lists of N.D.H. Students in their areas so that contact can be made by experienced members with a view to assisting them in a practical sense. Student membership of the Institute should provide a closer district link with the Institute in this regard.

The work of the Examining Board is illustrated by the following statistics given in the Chairman's Report.

<u>STUDENT STATISTICS:</u>	<u>TOTAL</u>	<u>TOTAL</u>	<u>Schedule</u>				<u>Api-</u>	
<u>1977 EXAMINATIONS:</u>	<u>1976.</u>	<u>1977.</u>	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>HSC culture</u>	
Candidates entered	158	174	104	12	6	40	8	4
" absent/withdrawn		16		9			7	
" examined		158	95	12	6	33	8	4
Subject Entries lodged	458	522						
" " absent/withdrawn		60						
" " examined		398						
(a) Written		347						
(b) O & P.		44						
(c) Thesis		7						

ORAL & PRACTICAL EXAMINATIONS SUMMARY:

	1977.	1.	2.	3.	4.	HSC	API.
O. & P. I entries	20	14	-	-	6		
O. & P.II "	20	16	-	-	4		
O. & P.III "	5	5					
H.S.C.	4					4	
Apiculture	2						2
<b>TOTAL :</b>	<b>51</b>	<b>35</b>	<b>-</b>	<b>-</b>	<b>10</b>	<b>4</b>	<b>2</b>
Absent/withdrawn	7	6			1		
Examined :	44	29	-	-	9	4	2

STUDENT REGISTRATIONS:

Registrations are now based on the year ending 31 May, to coincide with the Government capitation applications. In previous years this date was 31 March.

Total no. students registered	31.3.76	-		351
" " " "	31.5.77	-		407
New Registrations	31.5.77 to 31.12.77	-		39
" "	1.1.78 to 31.3.78	-		86
" "	1.4.78 to 31.5.78	-		45
				<u>577</u>
Deduct: -	Withdrawals, graduations and elimination of students who have not taken examinations in past 3 years.			<u>83</u>
	Total registered 31.5.78			<u>494</u>

The Examining Board is also concerned with the future of N.D.H. graduates and gives its support to the promotion of greater public interest in the National Diploma in Horticulture qualification. This involves an awareness on the part of employers that holders of the Institute's National Certificate and National Diploma are soundly equipped with specialised knowledge in General Horticulture, Fruit Culture, Vegetable Culture, Nursery Management, Apiculture or Horticultural Salesmanship. In addition the N.D.H. qualification signifies at least 5 years of practical working experience in the particular option chosen by the graduate.

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*The Royal New Zealand Institute of Horticulture has just enrolled a new student for one of its courses. Age : 68 years!*

# "Nematodes in Ornamentals"

G.F. NICOL

*Plant Health Diagnostic Station, Lincoln.*

The practice of monoculture characteristic of many horticultural situations pre-disposes a crop to many pests and diseases. Thorough phytosanitary measures largely obviate this threat, but occasional outbreaks of pests, such as plant parasitic nematodes, result in a poor quality product and consequent financial loss.

## WHAT IS A NEMATODE?

Nematodes cannot be detected by the naked eye, as they are tiny thread-like transparent worms. The largest plant parasitic nematodes are approximately 1 mm long. All the nematodes attacking plants are characterised by having a feeding device called a stylet or spear. This hollow needle-like structure is used to puncture plant cells. Various enzymes are injected into cells and all contents extracted through the stylet in the process of feeding.

Though the nematode is hard to detect, the signs of their presence are obvious and these will be described in discussing the three most important nematodes attacking ornamentals.

### (1) Stem and Bulb Nematode (*Ditylenchus dipsaci*):

This nematode is a big threat to the bulb industry. In one narcissus plant, for example, a 15,000 fold multiplication of nematodes during one season's growth has been reported and this would lead to a complete and rapid destruction of the bulb.

The nematode has been recorded on : - *Gladiolus*, *Hyacinthus*, *Narcissus*, *Phlox*, and *Tulips* in this country.

Nematodes enter the bulb from the soil in the region of the neck where they invade young leaf tissue. Some are carried upward by growth of the leaves. The establishment of small breeding colonies in the leaves causes light yellow-green swellings called spickels. With a heavy infestation the leaves become twisted and distorted. Bulbs infested with nematodes often flower late. Not all the nematodes are carried upward to the leaves, others multiply in the scale leaves of the bulb causing the appearance of characteristic brown rings when the bulbs are cut across. Infested bulbs are soft and often secondarily attacked by bulb mites and narcissus fly.

The nematodes can survive in a dormant state in infested bulbs.

(2) Root Knot Nematode (*Meloidogyne spp.*):

This nematode attacks a wide range of ornamentals. In this country, root knot nematode has been recorded on the following hosts:- *Phebalium*, *Gerbera*, *Cyclamen*, *Delphinium*, *Scabiosa*, *Rosa*, and *Saintpaulia*.

The nematode penetrates the root, thus disrupting the transport pathways of the root. To counteract this the plant produces new roots, resulting in a plant with a very bushy root system. While in the root the nematode produces a chemical which causes the cells of the host plant to divide rapidly in a cancerous manner. This results in distorted roots with various sized swellings or galls on them.

This unhealthy root system manifests itself as a generally unthrifty plant in which flower production is poor.

(3) Chrysanthemum Nematode (*Aphelenchoides ritzemabosi*):

The first sign of attack is a yellowish-green blotching of the leaves at the base of the plant. The discoloration is bounded by the main leaf veins. As the nematodes multiply the affected areas darken through reddish-bronze, brown to almost black until the whole leaf is dead and shrivelled.

Nematodes can infest the flower causing small deformed blooms in which there is often some colour break.

In this country, *A.ritzemabosi* has been recorded on *Begonia*, *Chrysanthemum*, *Gloxinia*, *Lilium* and various ferns.

The clean cultural practices of ensuring only good quality planting material is used, roguing out all infested or suspect plants, burning all plant trash, sterilising glasshouse soil, planting outdoors only on clean weed free soil, and hot water treating all bulbs and stools, should ensure that the damage caused by nematodes remains a potential threat rather than an actual problem.

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## *Annual Journal No. 6*

*The 1978 edition of the RNZIH Journal is now being prepared for printing.*

*It will contain over 25 articles on a variety of topics, submitted by the country's leading amateur and professional horticulturists. It is hoped that all members will support this valuable publication.*

*Copies can be ordered by writing to the RNZIH Secretary, P.O. Box 12, Lincoln College. Cost \$3.50 per copy.*

## *Prizes Awarded-1977 Examinations*

COCKAYNE GOLD MEDAL: for the candidate completing N.D.H. (First Schedule) with the best average marks, subject to certain conditions.

NO AWARD.

DUGALD MACKENZIE MEMORIAL PRIZE: For the best thesis presented for N.D.H. (First Schedule)

NO AWARD

J.A. CAMPBELL PRIZE: For the candidate completing the Intermediate or National Certificate examination (Subjects nos. 10-14) in N.D.H. (all Four Schedules) with the best average marks, subject to certain conditions.

R.I.KNOWLES - New Plymouth

DAVID TANNOCK MEMORIAL PRIZE: For the highest marks in the Oral and Practical III examinations for N.D.H. (First Schedule).

D.R. CROCKETT - Masterton.

PETER SKELLERUP PRIZE (No. 1): For the candidate completing Subjects nos. 1-9 of the examinations for N.D.H. (all Four Schedules) with the best average marks, subject to certain conditions.

P.J. CARSON - Waitara.

PETER SKELLERUP PRIZE (No. 2): For the best thesis submitted by a candidate in the Second and Third Schedules - N.D.H., subject to certain conditions.

NO AWARD.

JUNIOR MEMORIAL PRIZE: For the highest marks in the Oral and Practical I examinations for N.D.H. (all Four Schedules) subject to certain conditions.

R.J. PAGAN - Invercargill.

WHANGAREI DISTRICT COUNCIL PRIZE: For the best thesis submitted for N.D.H. (Fourth Schedule) subject to certain conditions.

NO AWARD.

N.Z. VEGETABLE & PRODUCE GROWERS FEDERATION PRIZE: For the candidate with the best record for the year in the examinations for N.D.H. Vegetable (Third) Schedule.

M.H. RHODES - Levin.

The Examining Board wishes to congratulate all prize winners on the standard of their achievement in the 1977 Examinations.

## *Diplomas and Certificates—1977 Examinations*

The following candidates completed examinations up to Certificate or Diploma level.

### A. FINAL DIPLOMA:

N.D.H. (First Schedule) - RUTH E. HILLS  
N.D.Ap. (NZ) - Apiculture - TREVOR G. BRYANT.

### B. NATIONAL CERTIFICATE:

#### N.D.H. (First Schedule):

J.D. Burrell  
A.H. Buxton  
M.C. Cadogan  
P.F. Cody  
E.J. Galbraith  
K.R. Garnett  
A. James  
R.I. Knowles  
C.V. Norris  
A.K. Petheram  
M.J. Reece  
R.D. Skinner  
G.J. Thomsen  
E.M. Willems

#### N.D.H. (Third Schedule):

M.H. Rhodes

#### N.D.H. (Fourth Schedule):

J.S. Lawrence  
P.N. Lees  
D.J. Lynch  
L.T.W. Mattson

### HORTICULTURAL SALESMAN'S CERTIFICATE:

Mary H. JOHNSON  
Elizabeth A. JURANOVICH  
Shirley J. LEWIS

# District News

AUCKLAND: On July 18th an evening meeting will be held at which Mr. Hugh Redgrave will give a talk on "Street Planting." This is a subject which has interested Mr. Redgrave for many years and he will be illustrating his talk with slides from both N.Z. and abroad.

On August 15th Mrs. Ann Wilcox will address a meeting on "Miniature Daffodils." She specialises on growing these bulbs (and very successfully) in her Henderson garden. There will be a special Spring Display of flowering shrubs and bulbs.

MR. PERCY EVERETT is an old ex-member of our Council who had to resign because of ill health. He was honoured at the Annual Conference by being made an honorary member of the RNZIH. Members may not be aware that Mr. Everett played an important part in the introduction of Tamarillos and other fruits as commercial crops in N.Z. For very many years he served on our local Executive in different capacities and was always someone on whom you could call for that extra bit of specialised knowledge. Unfortunately his continuing ill health precludes him from attending any of our functions.

The following extracts are from the Auckland May Newsletter:

Flowering in Ellerslie Racecourse Gardens at the moment is *Osmanthus fragrans auranticus*, a delightfully perfumed soft-orange flowered shrub. No mention of an *Osmanthus* with flowers of this colour is made in easily-available reference books and it is to Miss Jean Goulding, Botanist at the Museum, we owe the correct identification of this shrub. In Harrison's book 'Trees & Shrubs' he mentioned *O. fragrans* - 'this sp. forms a large bush or shrub with oblong-lanceolate leathery leaves 3-4" long, slender-pointed and toothed, strongly veined beneath. Leaves of this species are used in China to flavour tea. The tiny white fls. are deliciously apricot-scented'. *O. fragrans auranticus* has the same delicious perfume and funnily enough the flowers are the colour of a ripe Moorpark Apricot! The relationship between this plant and the Privet is obvious; not quite so easily seen is its kinship with Lilac, Forsythia, Jasmine and the Fringe Tree (*Chionanthus*). *Osmanthus delavayi* (which is now classified as *Siphonomanthus delavayi*) was found by the French missionary after whom it was named in Yunnan in 1890. Only one of the seeds he sent back to France germinated and it remained scarce for a good number of years. *O. fragrans* was one of the discoveries of William Kerr as were *Murraya exotica* and the Cumquat - both trees with sweetly perfumed flowers. This was in the very early 1800's when Kerr was sent to the Orient to collect on behalf of Sir Joseph Banks. No one seems to know any of the history of the shrub in the Ellerslie Gardens; any information about it would be appreciated.

*Camellia granthamiana* is still a fairly unusual *Camellia* and it is not

commonly seen growing in gardens. Its full potential as a medium for crossing with other *Camellia* spp has not yet been realised although some work in this field has been done. The history of its discovery is interesting. The flora in the vicinity of Hong Kong has been widely explored by a succession of botanists and collectors since 1841 but it wasn't until October 1955 that a Chinese forester sent the first plant in to his headquarters in a bundle of miscellaneous plant material. Realising this specimen with its striking white flowers was something out of the ordinary, it was forwarded to Kew where it was subsequently found to be a distinct new species and was named in honour of the Governor of the Colony. For those who do not know *C.granthamiana*, "it bears handsome flowers measuring 5½ ins. in diameter and has 8 white petals with a cluster of golden stamens in the centre. It is not closely related to any other known spp and is outstanding in the genus by the following unusual characteristics: flowers without stalks, subtended by a large cup-like cluster of grey hairy perules (bracts and sepals) the white corolla 4½ - 5½" across, slightly united at the base to the clusters of stamens, stamens free, the 5-celled seed capsules invested by persistent perules even when split and the dark lustrous green leaves with deeply impressed venations on the upper surfaces". Although a thorough survey of the adjoining area has been made to the region each year, no other plant of this sp. has been found. This solitary tree is about 12' tall, growing in partial shade on the edge of a woody area by the side of a rocky stream in company with *Ilex rotunda*; *Caesalpinia nuga*, *Adina piluliferia* and tall grasses. On account of its multibranching habit the tree is believed to have been cut to within a foot or so of the ground many years ago, and the base has a diameter of a little over 12". Its age is difficult to determine, but it is probably between 50 and 70 years old. The tree was almost destroyed when an extensive hill fire swept to within 10 yds of it. (*Camellia* Bulletin: R.E. Dean, Hong Kong.)

NORTH TARANAKI: The programme for the remainder of 1978 is as follows:

(All evening meetings at the War Memorial Hall, Ariki St., 7.45 p.m.).

- July 15th: Evening meeting: 'N.Z.'s Offshore Islands' by Mr. G. Rogers
- August 14th: Evening meeting: 'World Orchid Conference, Bangkok' by Mr. G. Fuller NDH(NZ), Curator, Pukekura Park.
- September 7th: Half day trip to local gardens.
- September 16th: Evening meeting: 'Bog Plants and Water Gardens' by Mr. and Mrs. M. Sheerin.
- September 30th: Day trip to Pukeiti and Gardens.
- October 21st-23rd: Labour weekend trip to Waikato area.
- October 26th: Day trip to Stratford Gardens
- October 28th: Evening Meeting
- November 18th: Evening meeting. Social, panel, quiz and film.





SECRETARY-TREASURER: We were saddened to learn of the death, on 30th March, of our Secretary, Miss Constance Free. Although hampered by failing health she maintained her interest in the Institute and its activities, and did her best to help to keep the wheels turning, right to the end.

Always a lover of flowers and all growing things, Miss Free took up her secretarial duties with the Institute in October, 1963, on the resignation of the late Mr. T.H. Reader, and became Treasurer when Mr. J.H. Barnard retired in 1970. She was a Life Member of the Institute and was awarded a Fellowship in 1967.

WELLINGTON: At our meeting on March 30th Mrs. K. Millar gave an address on "Edible Weeds." There was a wide range of weed samples set out on display and the merits of each were discussed in turn and samples passed around the audience. We were also provided with a weed salad to sample! In olden days many weeds were part of the countryman's diet and with the upsurge of interest in herbs generally many people are using more of them in their cooking and realizing that perhaps the natural remedy for an ailment could be growing in their garden.

This is a growing trend that is recognised even by the nurserymen as a glance at the latest English Thompson & Morgan catalogue will show. Index headings such as these: Herb Teas, Nuts & Seeds; High Protein Vegetables; Medicinal Herbs; Sprouting Seeds. The last item are used to provide green salads and are sprouted in the kitchen.

Closer to home there is a very good article in the latest Consumer No. 149, entitled "Ever thought of becoming a vegetarian?" All the calories you need and, maybe, less obesity.

They defined vegetarianism as being divided into three main types.

- '1. Lacto-ovo vegetarians who eat milk products and eggs
2. Lacto-vegetarians who eat milk products only.
3. Pure vegetarians (or vegans) who eat plant products only.'

and their conclusion

'Vegetarianism has much to offer the prosperous Western meat-eating culture. A greater emphasis on cereals, pulses, fruit and vegetables, and a diet with less fat and sugar would be a good thing for most of us.'

And especially for us in horticulture!

WHANGAREI: We regret to note that our president, Mr. Rob Small, has been forced to resign his position due to increasing work pressures and general lack of time to carry out his duties adequately. At the March meeting Mr. Todd gave another absorbing slide presentation on our National Parks featuring the Mt. Cook and Tongariro Parks. The District Council will not be involved in the Winter Show this year and rather than hold a mid-winter night meeting, a Saturday morning bus trip is planned.

DISTRICT COUNCIL SECRETARIES

Auckland:

Mrs. K. J. Veal,  
9 Gray Crescent,  
Torbay,  
AUCKLAND, 10.

Poverty Bay:

Mrs. A. I. Pole,  
Darwin Road,  
GISBORNE

Bay of Plenty:

Mrs. D. A. Hardwick  
F.R.I.H.N.Z.,  
Minden Road,  
Te Puna  
TAURANGA.

Southland:

Mr. G. A. R. Petrie,  
Rochdale Road,  
INVERCARGILL.

Canterbury:

Mr. R. Edwards,  
Department of Horticulture,  
Lincoln College,  
Canterbury.

South Taranaki:

Mr. R.D. Chamberlain,  
6 Puriri St.,  
Hawera.

Manawatu:

Hon. Secretary,  
R.N.Z.I.H. District Council,  
P.O. Box 1905,  
PALMERSTON NORTH.

Waikato:

Mrs. R.P. Powers,  
9 Clark Place,  
HAMILTON.

North Taranaki:

Mrs. Marie Ward,  
52 Lyn St.,  
New Plymouth.

Wellington:

Mrs. D. Menzies,  
"Authene",  
Main Road,  
Akatarawa,  
UPPER HUTT.

Otago:

Mrs. R. Bagley,  
11 Ascog Road,  
Ravensbourne,  
DUNEDIN.

Whangarei:

Mr. John D. Sholl,  
13 McInnes Avenue,  
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