

# 7

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# 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 7, AUTUMN 1978

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## ROYAL NEW ZEALAND INSTITUTE OF HORTICULTURE (INC.)

*Patron* : His Excellency the Governor General, Sir Denis Blundell

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*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.

# Planting Kauri in Gardens

*Notes from N.Z.F.S. booklet "Planting Kauri, instructions and care."  
Reprinted by kind permission of N.Z.F.S.*

## PLANTING KAURI IN GARDENS

Kauri when young are extremely attractive trees, their erect cylindrical boles, with a pattern of alternate bands of grey and silver bark, carrying an almost symmetrical conical crown. When older, the bulk of the trunk becomes massive, the bark takes on a rougher more mottled appearance, and the crown is more spread and heavily branched.

For garden planting they have a high interest as feature trees. In such situations they can also grow much better than their counterparts planted in scrub or plantation. The reason is that they do not have to compete for water and nutrients to the same degree, and also that they do not suffer from root competition in a garden.

For your planting, select first of all a position sheltered from strong prevailing winds.

Where the garden soil has been cultivated recently there will be no need for pre-conditioning of the soil before planting your kauri seedling. If there is a lawn which has been down for several years, however, it will probably be advisable to pre-pit, particularly if the soil is poor. You could also replace poor soil with good soil. In either case an incorporation of well rotted compost will be an advantage.

### Time of Planting

Seedlings planted in autumn survive and grow better than those planted in winter or early spring. They should therefore be in the ground at least 1 month before the onset of wintery conditions. In Northland this would mean no later than the end of May.

### Soil Nutrients and Soil Acidity

Kauri will tolerate low levels of soil nutrients. Since both vigorous and unthrifty trees contain the same proportions of these essential elements, some other factor or factors are responsible for good healthy growth. Soil condition is believed to be one possible explanation. Kauri can however make use of soil nutrients if available, and much more vigorous growth can be expected if adequate supplies of fertiliser are present.

Lime is not required unless soil acidity is below about pH 4.5. So far, best growth of kauri has been obtained with pH between 4.8 and 5.5.

### Soil Condition and Pre-pitting

A cultivated soil is much more conducive to good establishment and growth than an uncultivated soil. This particularly applies to heavy clay soils.

It is common practice to carry out "pre-pitting" where kauri seedlings are to be planted in uncultivated ground or heavy soils. At least 1 month before planting, though preferably 3 months before, the soil is dug to make a hole 30 cm (12 in.) in diameter and 30 cm deep.

The soil from the hole is left alongside to "weather" until planting time. When it is replaced around the seedling after this period of exposure, the soil should be quite friable, or loose, and will provide the seedling with a rooting medium that is, initially at least, free of other competing roots and from which the available nutrient could be more readily taken up.

Where practicable, there can be some benefit in mixing well-rotted compost with the soil at the time of planting or, alternatively, in placing well-rotted compost beneath the roots at the time of planting. (If the compost is not well rotted, it could "burn" the roots.)

The better the soil, the better the growth, but response on poor soils can be improved by applying fertiliser in the spring following planting. (See under Fertilisers.)

### Placing Seedling in Planting Hole

Take care when planting out that you do not disturb the seedling's roots when removing it from its container.

Tamp the replaced soil firmly and note that it is best to have the soil level around the tree slightly higher than the root collar, as the soil will tend to sink. This is a particularly advisable precaution when planting on a large-scale on an open site that has been worked over with discs or harrows. Sinking here could cause pooling of water around the trees, which is highly undesirable as kauri don't like wet soils or wet sites.

### Aspect and Shelter

Kauri tend to do best on a northerly aspect, and likewise to survive and grow better in sheltered places rather than those exposed to strong winds.

### Light

The greater the amount of overhead light a seedling receives, the better its rate of growth.

### Frost

Small newly planted kauri seedlings are sensitive to frost. Once they are established and growing well they have been known to withstand up to 17° of frost.

When planting the seedlings outside their natural range, take care to protect them from frost damage by selecting situations that offer adequate side and overhead cover, such as a surround of manuka scrub. Where there is no protection from such a "nurse-crop" you will need to provide an artificial cover in the form of scrim or a manuka brush shelter.

Because of the tendency of frost to hit in valley bottoms, seedlings in such situations are more at risk than those on elevated ground.

### Wet Sites or Soils

Sites or soils that are likely to become waterlogged are not suitable for kauri seedlings as the development of root-rotting fungi is common under these conditions. The seedlings can be killed off as a result, or if they survive they grow extremely slowly.



### Fertilisers

A slow-release nitrogen-phosphorus-potassium (NPK) fertiliser such as di-ammonium phosphate is beneficial in the early stages of establishment as it induces a sturdier healthier-looking plant, although it does not necessarily improve growth to any significant degree.

The application of a small handful (110-140 grams, which is about 4-5 oz) of this type of fertiliser, if desired, can be made early in the spring following planting. Place it in a small hole in the soil, about 15 cm deep, and about 15 cm from the tree. Locate the hole on the uphill side if the tree is on a slope.

On no account mix any artificial fertilisers with the soil at the time of planting a seedling as the roots are liable to get "burnt".

## Spacing and Branch Formation

Under natural forest conditions kauri shed their lower branches as they grow. When they are "open grown", that is planted and grown without a surround of competing plant life, the trees retain their lower branches. This retention has two possible drawbacks. It may detract from the otherwise attractive form of the young tree, and it may lead to knot formations in the timber. This latter aspect could be of concern to those growing plantation kauri.

You can eliminate the problems resulting from branch retention by removing lower branches from time to time as the tree grows, and before the branches become too thick. To remove a branch, jerk it downwards, and it will come away easily. There will be a white wound that bleeds slightly, but it will heal quickly.

## Damage from Surrounding Vegetation

Kauri are very susceptible to being misshapen through being bent away from their vertical position by such things as heavy shed branches from surrounding vegetation. Also, if the tip is wind-whipped against nearby sturdier and unyielding plants it will be damaged beyond recovery. Where the tip is badly damaged in this way, it is not unusual for a branch to take over as main stem, but because of the branch's initial position, this results in a tree with a kinked or bent trunk.

## Follow-up Care

Very little follow up treatment will be required once the seedling is established in a garden, although an application of fertiliser the following spring could be beneficial.

As the tree grows taller it may be necessary to stake it. If so, use cloth or cloth-like material to tie the tree to the stake. Wire or rope will rub or bite into the stem, causing it to bleed gum, and you could end up with a malformed or badly damaged tree.

One other follow-up to bear in mind in a garden planting of kauri is that of branch retention.

## Tree Stocks Available

Kauri trees for planting in State forests are raised in a Forest Service tree nursery at Sweetwater near Kaitaia. They are grown from seed and are ready for transfer to planting sites when they are 3 years old (known as 3/0 stock) and their average height is around 28 cm (11 in.). In certain instances 2-year-old (2/0) stock, averaging 20 cm (8 in.) in height, can be used - such as planting amid manuka scrub or in a sheltered garden position.

The trees from Sweetwater are raised primarily for use in State forests, but when there are surplus stocks available they may be sold to the public in bulk lots of 20 or more and enquiries regarding supplies should be addressed to :

New Zealand Forest Service,  
C.P.O. Box 39,  
Auckland.

# What is it — Cultivar or Variety?

J.O. TAYLOR

Botanically and horticulturally the world has adopted the International codes of Nomenclature for all plants. The aim of the Codes is to promote uniformity and stability in the use of names and to debar or discourage procedures which may lead to confusion and error.

Horticulturists have long used the word variety for the great number of variants which occur in cultivated plants such as *Populus nigra* 'Italica' (the Lombardy Poplar), or *Syringa vulgaris* 'Mont Blanc' (a white Lilac). These are cultivars and not varieties. The international Code states that the term variety (abbreviated as var. or v.) should be confined to populations of plants which occur in the wild and are distinctly different from other populations within the species. The populations of plants corresponding to the original description of the species belong to the type variety (the so-called true species). Often they are in geographic groupings and they may come true from seed. An example is *Sophora microphylla* var. *fulvida* which is an attractive little kowhai with very large flowers from the west coast near Auckland. True varieties are now consequently much more restricted in horticultural nomenclature than formerly and the term cultivar now correctly replaces the word variety in most instances.

A cultivar, therefore, is a plant which has originated in cultivation or has been maintained in cultivation, and it is not usually given a name in Latin form. Cultivated plants, whether they are vegetatively propagated or are pure lines or strains of annuals maintained by selection, are all designated as cultivars.

More technically a cultivar may be defined as an assemblage of cultivated individuals distinguished by morphological (external shape), cytological (cellular), or other characters significant for the purpose of horticulture. Whether or not they are sexually or asexually (vegetatively) reproduced, they retain their distinguishing features.

## What is a clone?

A clone is a cultivar which consists of individual plants which have been propagated vegetatively from a single plant and are therefore genetically uniform. Examples : all roses which are budded, all fuchsias which are propagated by cuttings, all camellias which are grown from cuttings or budded or grafted. They are all clones with a cultivar name.

## Conventions in writing plant names.

The generic name of a plant, e.g. *Camellia*, is always written with an initial capital letter now. The species epithet or second name, e.g. *Camellia japonica* is always written with an initial small letter. This rule therefore applies to names of persons which are used in specific names, such as *Arbutus menziesii*. Formerly such names were capitalised.

The international rules however require that cultivar names, whether latinised or not, should be written with an initial capital

letter. Also they are never underlined in manuscript or typescript but are set in roman type (when in printed text).

In manuscript and typescript the generic and specific names are underlined, and in printed text they set in italic type. If botanical names are used as common names they are written with an initial small letter such as camellia or nassella tussock (*Nassella* and *Camellia* are generic names.)

Cultivar names are enclosed in single quotation marks and they may be preceded by the abbreviation cv., this latter is optional however. e.g. *Photinia glabra* 'Rubens' or *Photinia glabra* cv. Rubens.

#### Strains.

These botanically are cultivars. An example is the strain of Russell lupin, which is a group of cultivars raised from seed and showing stable characters.

#### Kind or Kinds.

This term has no botanical status. When used in Show Schedules it is an acceptable word for the Society and it appears to be clearly understood by exhibitors and judges. (It is defined in the C.H.S. schedule as a term which may be used in the classification of pot plants, trees, shrubs, flowers, fruit and vegetables for exhibition purposes. EG. chrysanthemums, delphiniums, roses, are "kinds" of flowers; apples, peaches, plums, grapes, are "kinds" of fruit.)

#### Hybrid.

When a plant is a known hybrid, the letter x is used as an indication e.g. *Corokea x virgata*. Within a hybrid cultivar names are written in the usual way; e.g. C. x *virgata* 'Bronze Lady'.

## Flowers for Shows

The new, up-dated reprint of this valuable guide for the Horticultural Shows is now available. Orders for this 1978 edition should be sent to : -

The Secretary,  
R.N.Z.I.H.,  
P.O. Box 12,  
Lincoln College,  
Canterbury.

Owing to increases in the costs of printing and publication since the last issue in 1966 the price of this booklet is \$4.50 per copy, including postage. A discount of 10% is offered on single orders of 10 or more copies.

The "Flowers for Shows" cover photo is by Mrs. Yvonne Cave, F.P.S.N.Z., A.R.P.S.



# Notable and Historic Trees

DIANE MENZIES

The first tree has been placed on the National Register, held by the Notable and Historic Tree Committee in Wellington.

The tree is a *Fraxinus excelsior* on the property of Mr. R.J. Watson, of Dunsandel. The tree is on the junction of the Main South and Hororata Roads. In early days horses were tied under the tree while awaiting service at the local smithy which was alongside the tree. The local blacksmith planted the ash and his great grandson now owns the property. The ash is said to have been planted in 1873 by William Walker, Blacksmith and Farmer.

Although this tree, because of its historic associations, has been classified as 'Historic' it is also a notable landmark through its prominent location and good size and form.

## Background

In November 1974 the Institute introduced its scheme for the registration and labelling of historic and notable trees throughout New Zealand. The District Council secretaries were notified of the scheme and sent copies of the pamphlet describing procedures for the scheme. The Historic and Notable Tree Committee was formed. The Committee is based in Wellington and comprises Messrs. J. Short and A. Nind and Mrs. D. Menzies acting under the Chairmanship of Mr. C. Howden. The Committee will distribute and collate registration forms and issue suitably engraved labels for trees which meet the criteria of historic or notable trees at a national scale.

The Committee is in operation but so far has had little interest or comment from local District Council members. Since the scheme is entirely voluntary, the Institute looks to the local members for enthusiasm and interest to ensure its success.

The Institute will also be looking to local members for assistance in collecting information and giving advice to people who are interested in having a particular tree placed on the register. The registration form requires the signature of a horticulturist, landscape architect or similarly qualified person and it is anticipated that local members will offer their full assistance. The Historic and Notable Trees Committee will also be looking to local members to give advice on the health and maintenance of registered trees and to notify of any changes in registration in their district.

The Committee has been in contact with Government Departments and is hoping to have support from the Forest Service and Lands and Survey Department, among others. Members may be aware that much early work on describing and listing historic and notable trees was undertaken by Mr. S.W. Burstall. His work was released as a series of reports by the Forest Research Institute. The reports contain a great deal of information which may be useful to District Councils in collecting information on trees in their area. The reports cover most districts in New Zealand so it is suggested the District Council Secretaries should write to the Forest Research Institute, Private Bag, Rotorua for a copy of the report relating to their area.

The Tree Society of Auckland has also put a great deal of effort into questioning local bodies on their attempts to protect vegetation within their area, and seeking amendments to legislation based on an analysis of their findings.

Government is currently reviewing the Native Plants Protection Act. It is hoped that suitable legislation for the protection of historic and notable trees can be included in this or other legislation, so that the Institute's Scheme might have legal backing.

In the meantime the Committee is proposing that every District Council should appoint Tree Protection Officers with the responsibility of liaising with local people on tree registration, assessing trees, applying for registration and above all furthering the Institute's scheme at a local level.

The Committee is hoping to hear from local Tree Protection Officers. If any members have any queries or comments the Committee would be only too happy to receive them.

Their address: R.N.Z.I.H. Historic and Notable Tree Committee,  
P.O. Box 11379,  
Wellington.

## Associations who are Members at the National Level

*This list is published in response to the request of a member who felt that it would enable District Councils to keep local Specialist Societies' branches informed of Institute Meetings and affairs.*

Floral Art Society of N.Z.  
c/- Mrs. M. Cumming,  
58B Seaview Road,  
Milford, AUCKLAND.

National Daffodil Society,  
P.O. Box 30661,  
LOWER HUTT.

N.Z. Nurserymen's Assn.,  
P.O. Box 30-095,  
LOWER HUTT.

National Beekeepers Assn.,  
P.O. Box 4048,  
WELLINGTON.

N.Z. Fruitgrowers Federation,  
P.O. Box 882,  
WELLINGTON.

N.Z. Society of Professional Florists,  
c/- Mr. S. Perry,  
P.O. Box 3509,  
WELLINGTON.

N.Z. Vegetable & Produce Growers,  
P.O. Box 1784,  
WELLINGTON.

# Know Your Conifers - 3

M.B. Thomas

Drawings by B.V. McCartney.

*Chamaecyparis*

Fam. *Cupressaceae*

*Cupressus*

Major ornamental species :

*c. lawsoniana*  
*c. nootkatensis*  
*c. obtusa*  
*c. pisifera*

*c. sempervirens*  
*c. lusitanica*  
*c. macrocarpa*  
*c. arizonica* ) closely related -  
*c. glabra* )  
*c. arizonica* has rough bark,  
*c. glabra* smooth.



*C. lawsoniana*



*C. sempervirens*

Flattened branchlet systems,  
small round cones.  
1-5 seeds per fertile cone scale  
produce only 2 cotyledons.

*C. nootkatensis* x *C. macrocarpa*

Branchlet system at varying  
angles. Larger cones than  
*Chamaecyparis*.  
6-20 seeds per scale  
2- 5 cotyledons.

x *Cupressocyparis leylandii* - (Leyland Cypress)

This is a natural bigeneric. It is becoming increasingly popular as a shelter tree or hedge, and can be trimmed more severely than *C. lawsoniana*.

# Chairman's Report to Annual General Meeting

MAY, 1978

Ladies and Gentlemen,

The National Executive is pleased to present the Annual Report for the year ended 31 December 1977. This period coincides with the new financial year of the Institute which now ends on 31 December of each year. However, information on matters of interest, which have occurred in 1978, up to the date of this meeting, is included in this Report.

## 1. FINANCIAL.

(a) The Annual Accounts and Balance Sheet for the year ended 31 December 1977 are appended to this Report, together with Notes, to be read in conjunction with the Accounts. Comparison with the previous Accounts is not realistic in that the 1976 accounts were for a 15 month period. The excess of expenditure over income of \$443 is not considered significant, firstly because of several non-recurring expenses, including the purchase of a typewriter, reprinting of all stationery, and other expenses incurred in moving the Office from Wellington to Lincoln College, and secondly the increase of \$1200 in the examination fund brought about by the system of expense allocation employed, more than offsets the deficit shown in the General Account.

Therefore, the position overall in 1977 shows an excess of income over expenditure of \$715.

By a similar comparison there was a deficit of \$2915 for the 15 month period ended 31.12.76.

It is anticipated that Administration expenses will continue to be lower in the future, consequential upon the move to Lincoln College. Increased revenue from student membership in 1978 and an expected increase in the student capitation grant from Government should improve the overall situation during the current financial year.

(b) Trust Accounts. These are set out in the Accounts. A review of the present fragmented number of investments is in hand, which should result in better administration of the various funds and improve the return on investment.

(c) Publications Account. The financial assistance received from the Department of Internal Affairs towards publication of the Annual Journal is acknowledged with thanks.

(d) Examinations Account. The Balance of Funds in this account is controlled by allocating legitimate examinations expenses against income derived from students' fees and the Government Grant for students enrolled. While the Institute has a contingent liability to meet any excess of expenditure over this income, it is the policy of the National Executive to seek adjustments to either student fees or the Government Grant to maintain an even balance in this Account.

## 2. MEMBERSHIP.

Total membership at 31 December 1977 stood at 1074. This figure represents the nett situation after recording 44 new members, and a loss of 182 members through resignations, deaths, or loss of contact. A table of membership by District Councils is as follows:

Auckland	117
Bay of Plenty	47
Canterbury	125
Hawkes Bay	27
Manawatu	38
Marlborough	4
Nelson	15
North Taranaki	157
Oamaru	2
Otago	42
Overseas	13
Poverty Bay	7
Rotorua	6
South Canterbury	16
Southland	12
South Taranaki	74
Taupo	9
Waikato	153
Wanganui	9
Wellington	157
Westland	4
Whangarei	40
TOTAL MEMBERSHIP	<u>1,074</u>

The declining trend of membership - 1442 (1974), 1329 (1975), 1212 (1976), 1074 (1977) - is disturbing and reflects to some extent the growth in membership of other Horticultural Bodies where members feel they obtain a more specialised interest.

## 3. FELLOWSHIPS.

During 1977 the National Executive conferred Fellowships (FRIH(NZ)) on 5 members. It is of interest to note that 5 more members were similarly honoured in March of this year.

## 4. ASSOCIATES OF HONOUR.

The Award of Associate of Honour (AHRH(NZ)) was conferred upon :

Mrs. M. Kennedy - Whangarei	
Mr. P.J. Skellerup )	Christchurch
Mr. A.J.F. Healy )	

Two more nominations have been approved for submission to the 1978 Annual General Meeting.

## 5. DISTRICT COUNCILS.

The National Executive wishes to record sincere thanks to the executives and members of District Councils, all of whom have main-

tained the work of the Institute at local level.

## 6. PUBLICATIONS.

FLOWERS FOR SHOWS: Thanks are extended to the sub-committee responsible for the revision of the "Flowers for Shows" booklet. This has now been completed and the Booklet is printed and available for sale. Particular thanks are due to Mr. J. Short, who personally put a great deal of work and knowledge into the revision of this publication.

ANNUAL JOURNAL: Approximately 400 copies of the 1977 Annual Journal have been sold to date. Members are urged to purchase this publication, and perhaps consideration should be given to including it in an increased membership fee.

BULLETIN - HORTICULTURE IN N.Z. : This quarterly publication continues as an informative medium to members.

## 7. DUNEDIN CONVENTION - N.Z.I.A.S.

R.N.Z.I.H. participation at the N.Z.I.A.S. Convention in Dunedin in August 1977 took the form of the presentation of a series of papers covering the main theme of the convention - "Cross-Roads in N.Z. Agriculture", but with emphasis given to the contributions that science, design, economics and engineering make to horticulture.

Papers were presented by :

Mr. P. Taylor	- "Horticultural Production - Fruit"
Mr. G.G. Henderson	- "Parks and Reserves"
Mrs. B. Cave	- "Home Gardens"
Mr. J. Dunn	- "Engineering"
Dr. E. Hewitt	- "Science"
Mr. A. Petrie	- "Design Arts"
Mr. A. Naish	- "Horticultural Production - Glasshouse Vegetables & Nurseries"
Mr. A. Smith	- "Economics"

Dr. J.D. Atkinson delivered the Presidential Address.

The Banks Lecture was given by Professor G.T.S. Bavlis, Professor of Botany at the University of Otago, and a long standing member of the Institute, who chose as his subject "Endomycorrhizas in our Native Forests."

The thanks of the Institute is extended to these speakers.

## 8. COMMITTEES - SUB-COMMITTEES.

NOTABLE AND HISTORIC TREES: The basis of this scheme was laid in the latter half of 1977 and a sub-committee under Regional Horticulture has done a tremendous amount of detailed work in getting the scheme launched throughout New Zealand. Contact has been made at Ministerial level with Government Departments concerned, as well as local authorities and other interested bodies. Tree labels and Registration forms have been produced and a Register of Trees set up

to record registrations received.

The Scheme has the support of all concerned and is a great step forward in preserving and recording the notable and historic trees with which New Zealand is endowed.

REGIONAL HORTICULTURE AND PUBLIC RELATIONS COMMITTEE : Two committees have been combined for convenience under the Chairmanship of Mrs. W. Shepherd who has played a leading role in the affairs of the Institute during the year. Much of the responsibility for the continuing success and future of the Institute falls on this committee. Its achievements in developing programmes for Notable and Historic Trees, Plant Evaluation Scheme, District Council liaison, Public Relations and other matters, has given a high level of support to the Institute. The thanks of the National Executive is hereby recorded for the excellent work done by this Committee.

#### 9. HORTICULTURAL FARM CADET SCHEME.

The National Executive of RNZIH is fully in touch with the Agricultural Training Council and its proposals to form a Horticultural Farm Cadet Scheme, similar to the existing Farm Cadet Scheme, to further the training of young persons in the field of Horticulture. This scheme has the support of the Institute of Park and Recreation Administration, and commercial horticultural associations, and can be expected to grow, perhaps even at the expense of the apprentice scheme. The Institute should be directly involved in the scheme through provision of a national examination system and assistance with courses and contents.

#### 10. STUDENT MEMBERSHIP.

At a Special General Meeting on 30 March, approval was given to amend the rules of the Institute, to make it mandatory that all students taking National Diploma in Horticulture Examinations become members of the RNZIH on registration.

This decision was taken in the interests of both the Institute, which needs the students' support now and in the future, and the students themselves, who can derive benefit from membership of the Institute during this formative period of their careers. It is not an uncommon practice for Societies and Associations which carry out a training/examining role, to require membership by the recipients of the training/examining programme. The National Diploma in Horticulture awarded by RNZIH is recognised throughout New Zealand and indeed, overseas, as one of the higher diploma qualifications in horticulture. The cost to the student of achieving this Diploma is extremely low in comparison with many other similar qualifications offered by University Colleges, and the Examining Board does not consider that the added cost of membership of the Institute is burdensome to students.

All students registered with the Institute will be required to become members in the 1978 financial year and this is expected to increase total membership by approximately 350 new members.

#### 11. ELECTION OF EXECUTIVE.

As no nominations, other than those of members of the National

Executive eligible for re-election were received, no election is called for. Members of the National Executive for the 1978 year are :

Professor T.M. Morrison - Chairman  
Mr. J.O. Taylor  
Mr. R.J. Ballinger  
Mr. K.L. Davey  
Mr. I.D. Galloway  
Mr. G.G. Henderson  
Mr. P.K. McCliskie  
Mr. G.D. Mander  
Mr. A.L. Mason  
Mr. R.J. Nanson  
Mrs. W. Shepherd  
Professor J.A. Veale  
Mrs. M. De Castro

12. ACKNOWLEDGEMENTS.

PROFESSOR H.D. GORDON AHRH(NZ): On behalf of all members of the Institute, the National Executive wishes to pay special tribute, and acknowledge sincere appreciation to Professor H.D. Gordon who recently retired from the Chairmanship of the Examining Board after 21 years of continuous service in this capacity. This remarkable achievement of service is unlikely ever to be surpassed, and a debt of gratitude is owed to Professor Gordon, not only by the Institute for services rendered, but also by the literally hundreds of students who embarked upon an horticultural career under his initial guidance and advice.

13. HONOURS.

Congratulations are extended to Dr. J.S. Yeates, AHRH (NZ), on being awarded the M.B.E., to Mr. L.W. McCaskill, AHRH (NZ), for being made an honorary D.Sc., and to Mr. H.G. Gilpin, AHRH (NZ), on being awarded the Queen's Service Medal (Q.S.M.).

These honours appropriately mark the services rendered to Horticulture and Agriculture by these gentlemen.

14. IN MEMORIAM.

It is with sincere regret that the National Executive records the passing of 14 members of the Institute during 1977. The loss of these esteemed members is keenly felt and sympathies are extended to their relatives.

Particular mention is made of Mr. J.F. Living, AHRH(NZ) Past President; Miss L.G.I. Anderson, FRIH(NZ) (North Taranaki); Mr. L.C. Andrew, FRIH (NZ) - Life member since 1949; Mr. A.Kettles, FRIH(NZ) (Wellington), Mr. R.D. Pick. FRIH(NZ) (Waikato) Mr. E.R. Toop, FRIH(NZ) (Wellington).

15. CONCLUSION.

I would like to conclude this report by recording my thanks to members of the National Executive, members of the Examining Board,



members of the various Committees, District Councils, and to members of the Institute itself for the support and co-operation given during the year.

T.M. MORRISON  
Chairman,  
NATIONAL EXECUTIVE.



## Gardening with Edelweiss

GRAEME PATERSON

New Zealand can boast two native endemic plants commonly known as Edelweiss.

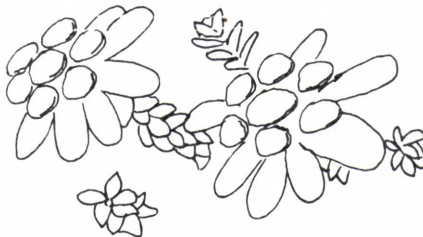
*Leucogenes leontopodium*, sometimes called the North Island Edelweiss, is in fact found in both islands and *Leucogenes grandiceps* in the South Island and Stewart Island.

*L. leontopodium* is distinguished by the larger leaves and slightly larger flowers. Their natural habitat is similar, being most happy on sunny rocky outcrops.

Both species are very amenable to garden culture looking most at home on a rock garden in a rock crevice where their silver grey foliage stands out and is a special contrast during the winter.

The characteristic edelweiss flowers appear from early summer onwards and their long lasting flowers lend themselves to drying for indoor arrangements. As potted specimens they are of great merit, ideal for a sunny window ledge or an alpine house.

Cuttings of both species root readily at all times of the year and rapid growth ensures an even mound soon being formed, the rugged nature of the plant enabling it to flourish in any soil type.



# Trees should be Planted Because

MICHELE REEVES

*Kirkwood Intermediate School, Christchurch*

*(This is the winning essay in the 1975 RNZIH and NZNA Schools' Competition)*

Over the centuries trees have been planted for very many reasons, some of which still exist, whereas others have lost their importance. In the past the shipbuilding and mining industries used vast quantities of timber but nowadays this has more or less stopped.

Trees have always been important in history, religion, literature and art. In ancient times when forests were wide spread and provided man with shelter, food, medicine and defence from their enemies, it is not surprising that trees were highly prized and were often worshipped in their religious rites. Many of these ideas such as trees having spirits or certain trees being sacred still remain and affect the lives and behaviour of people today.

Sadly, however, trees are very often given little thought by most people and are usually taken for granted. Now that the enormous areas of native forests in many countries of the world have disappeared for ever, it is a lot more important for trees to be planted, than it has been in the past. New Zealand is lucky that it still has native forests remaining despite the fact that many forests were destroyed in early days of settlement. They set fire to them so they could have more grazing land for sheep, not realizing what this would mean in the future. Even forests which are still here are not totally safe from destruction and at the moment, there is an argument regarding the beech forests of the West Coast.

The main reason for a tree to be planted is industry. Forestry is one of New Zealand's biggest industries. Exotic timber has replaced a great many of the native trees because it is more economic. Fast growing varieties are planted because obviously they can be felled quicker.

Wood pulp was first used in eighteen seventy three; today it is the raw material for nearly all the paper in the world. During this century other uses for the cellulose constituent of wood, apart from paper, have been discovered. Hundreds of tons of pulpwood is now used each year in the manufacture of viscose rayon and cellulose packaging film. Adhesive lacquers, photograph films, plywood, and hardboards are other wood products. There is a market for logs, sawn timber and wood chips at present mainly being exported to Japan. Wood chips form the raw material for chemical or kraft pulp. Kraft is used for the manufacture of paper and cardboard. Expansion has occurred in the production of pulp, paper and paperboard in New Zealand. Wood has many by-products such as charcoal, pitch, wood creosote, tannin and dyestuffs.

Latex is obtained from the Caoutchouc by tapping and rubber is prepared from this latex. The North American Pencil Cedar is the traditional source of soft timber for pencils. An oil is derived from the kernel of walnuts. Turpentine is obtained from an oily part of Pine trees. Some trees are particularly well known by their special uses like the Ash which is used to make walking sticks. Wood

also supplies us with fruit and fruit keeps us healthy because of the vitamins. Oranges especially have lots of vitamins and apples are good for our teeth. Holly leaves and their bright red berries are used around the house for decoration. Of course many types of trees are grown merely for their beautiful flowers.

Trees have long been used in hedges to mark boundary lines on the land and also tall trees are commonly used as windbreaks, when they are planted in a row. But it is not always realized that trees prevent erosion of the soil. If it wasn't for trees many areas would turn into dust bowls. Already it has been discovered that when large sections of forest are thoughtlessly cut down erosion of the whole area results. This is because a forest has a water holding capacity. The trees slow up water flow and hold the soil. This is especially important on steep slopes, where the tree roots prevent land slides.

Leaves from deciduous trees play a very vital part in improving the soil. The leaves rot and form leafmould in which seedlings may grow.

A lot of wildlife would be lost without trees which give them shelter and food. Animals, birds and insects rely on trees.

Trees being the tallest of our plants give us welcome shade in the summer as well as protection from cold winds in the winter. Perhaps the most important of all benefits trees give us, is the oxygen they breathe out and which we need. They make use of the carbon dioxide which we breathe out.

More than ever before trees are planted just for their beauty in gardens, streets and parks. Cities which would otherwise be uninteresting and plain are made more colourful to live and work in. Trees are often planted in hot countries just to shade pavements whereas here the purpose is to beautify streets. A park wouldn't be a park without trees and our country wouldn't be so green and the scenery so beautiful.

Trees are continually being lost through felling, disease, vandalism, animals which destroy trees like opossums and deer, and also high winds.

Only recently strong gales destroyed thousands of trees in Canterbury, therefore, it is more important than ever that trees should be planted in large numbers to replace them, especially as they take so long to mature.

We need trees for the pleasure they give with their infinite varieties in shapes and sizes. Also in the colours of leaves and bark. No two trees are the same. So apart from their major use in building and in exports plus the very many other reasons for trees, we should plant trees because we enjoy them.

Other prize winners were :

2nd: David Abbott, Kaponga School, Taranaki  
3rd: Sarah Read, Highlands Intermediate, Taranaki

District Prizes: Derek Rankin, Lithgow Intermediate, Invercargill, and Jeanette McMillan, Hastings Intermediate, Hastings.

# Horticulture Under Scrutiny

DR. J.D. ATKINSON

*President, Royal N.Z. Institute of Horticulture (Inc.)*

ADDRESS TO NZIAS CONVENTION, AUGUST 1977

Horticulture is something very difficult to define, and undoubtedly the word means widely different things to different people. We can probably agree that it is an ancient art rather than a science, but that today, many branches of science are applied to the task of growing plants. There is no clear distinction from agriculture except that horticulture covers only the growth of plants for the use or enjoyment of man and never of domestic animals. An immense range of plants is cultivated, and inevitably growers have been forced to specialise. This in turn has led to the formation of specialist societies, where all the members have a clear-cut common interest.

Under these conditions can we retain enthusiasm for our Royal N.Z. Institute of Horticulture, with its very wide field of interest? Similar problems are faced by the Royal Society of N.Z., and the N.Z. Institute of Agricultural Science. The R.S.N.Z. is recognised by Government as the senior, independent scientific body in the country, but it is very rarely asked for advice on pressing scientific problems of the day. It does however act as the material link with the various international scientific unions, and it has some funds to organise international scientific symposia on specialised subjects. In addition it is able to bring together many disciplines to undertake scientific expeditions in the Pacific basin. Significantly it has, at least for the present, abandoned large, generalised scientific congresses. Although ANZAAS is to be held in Auckland in 1979, there is considerable doubt in many people's minds about the wisdom of holding such large meetings.

Here in Dunedin the NZIAS has brought a number of related societies together to hold concurrent meetings, but so far as horticulture is concerned there appears to be little cross fertilisation. Yet clearly the NZIAS has held a successful convention. We should look closely into the reasons for their apparently greater success than ours, and take action if we find a reasonable answer.

If horticulture is to flourish I am sure it is essential that there should be good links at the personal level between growers, advisers, teachers, economists and scientists. To achieve this some formal meetings will be required, as everyone is too busy deliberately to visit a colleague on the off chance that he may be able to help. Maybe we should be organising our formal meetings in some other way, possibly round a subject such as weed control, or marketing.

Within the past 50 years horticulture has become vastly more complex than it was when the Institute was founded. Training in the whole art of growing plants was considered important then, and it is even more so today. To meet this need there are now quite a number of horticultural courses available, but some producers still feel there are gaps, and they are establishing cadet training schemes. I think

it essential that our Institute should retain its training role, but it is not proving easy to secure agreement on which organisations should do what. We must all provide the strongest possible backing for the moves the Executive is making.

Many of the new chemicals that have appeared on the market since 1945 have proved of immense value to horticulture. Such materials as D.D.T., gusathion, maneb and paraquat have made it possible to meet market demands for near perfect fruits and vegetables, but they have brought some major problems in their train. Among these the most serious have been resistance in pest organisms, and toxic residues in human food. Research teams all over the world are making good progress in overcoming these difficulties, but a new problem has appeared in the shape of environmental lobby groups. These undoubtedly serve a useful purpose in preventing any complacency among the various authorities charged with regulating chemical use, but they do tend to overstate their case and play on the consumer's emotional fears rather than keeping to the evidence. There is a need for users of chemicals to watch the position closely, and to make their views known. It should always be remembered that if insects, fungi, bacteria, viruses, and weeds are allowed to multiply unchecked, vast numbers of people will die of starvation.

I would like strongly to support Dr. Hewett's comments on horticultural research. New Zealand can and does grow such a wide range of crops, that the number of problems requiring research is certain to be greater than the trained man-power available to solve them, at least for the foreseeable future. Thus research priorities have to be established and reviewed at regular intervals. It has proved difficult in the past for growers to play much part in setting priorities, as from the nature of their work they can have intimate knowledge only of their own problems, but every effort should be made to extend their role in planning future research. Maybe the Institute can help in bringing horticulturists' views to the attention of relevant authorities.

Mr. Taylor in his comments about the need to have scientists in his district rather than concentrated in Auckland emphasised the point I am trying to make. Most growers would like to see a team of scientists working on local problems just down the road. But New Zealand cannot possibly afford such a level of scientific effort. To keep a team working efficiently they would have to be provided with a good library, considerable expensive equipment, to say nothing of land, buildings, glasshouses, etc.

Scientists also need other people working on related subjects, with whom they can argue out new ideas, and from whom they can draw advice and constructive criticism. This is why D.S.I.R. has concentrated its divisions at Auckland, Palmerston North, Wellington and Lincoln. To cover regional problems a series of research areas largely staffed by technicians, is maintained throughout the country. In my view this is the best compromise in present circumstances, but the pattern may well change as our population grows. There is no doubt that a research scientist should have a good knowledge of his problem in the field, but it is not essential for him to live permanently in one district to acquire this.

## District News

AUCKLAND: The AGM is planned for Wednesday 26th April 1978. The N.Z. Tree Crop Association is holding its annual conference at Logan Park, Campbell Road from 26th to 28th April.

'An Evening with Flowers' was our Christmas happening. Thanks to the efforts of a lot of our members we had a wonderful display of flowers and plants. The President of the Auckland Horticultural Council, Mr. John Barker, and his wife were our guests.

NORTH TARANAKI : Six trips were planned for the first half of this year, including garden visits, bush walks, a visit to the Wanganui Horticultural Society Garden Festival and a week in Nelson. The Annual General Meeting was held on the 18th of February at which Mr. H.P. Thomas, Secretary for 18 years, tendered his resignation. The District Council now has a library for the use of members housed at the Polytechnic School, Liardet Street.

POVERTY BAY: A garden competition will be held in the Spring. A sub-committee has been formed to arrange bi-monthly entertainment and informative evenings.

SOUTH TARANAKI : Several trips have already been planned for this year, including a day trip to Wanganui and a three day trip to Taupo. A week in the South Island for garden visiting and sightseeing is planned for mid-April.

WAIKATO: The past year has been one of great interest and activity. Membership is over 130 with good attendance at monthly meetings which featured talks on many diverse subjects. Other activities included a visit to the Hamilton City Council glass-houses at Cobham Drive and the viewing of the preliminary earth-works for the up river extension of the Hamilton Gardens. Three Kauris were planted at Hamilton Gardens to mark H.M. Queen Elizabeth's Jubilee Year. A display of named plants at the Waikato Rose Show created much interest. Our flower of the week at the Public Library continues to be commented on by people using the Library and has been the beginning of interest in our Institute with several of our new members.

This year we undertook a two day garden tour in company with Institute members from the Auckland and Bay of Plenty district councils. It was a thoroughly interesting and enjoyable weekend and provided an excellent opportunity to talk with members of other District Councils. We hope to arrange return visits at some time. The excellent hospitality of our members whose gardens we visited, set the seal of success on the weekend.

Perhaps our mightiest effort was our August Seminar entitled "Your Garden". This was open to the public. A comprehensive range of short talks accompanied by displays and slides provided an excellent day's tuition for the 200 who attended. Thank you to the speakers and members who worked long and hard hours to present a first class day. The sales table was well stocked and in fact doubled our profit. We thank also the Waikato Savings Bank for their sponsorship of the publicity and enrolment sheets and the seminar folders. Our final meeting of the year featured the presentation of Prizes to the winners of the Hamilton City Council Garden Competition.

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