

# Horticulture

in New Zealand

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



**43**

**Autumn**

**1987**



# HORTICULTURE

## IN NEW ZEALAND

ISSN 0110 - 1153

BULLETIN OF THE ROYAL N.Z. INSTITUTE OF HORTICULTURE  
NUMBER 43, AUTUMN 1987

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Cover Photo: Taken by M. Adriaens

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

<i>Patron</i>	His Excellency the Governor-General
<i>Vice-Patron</i>	The Honourable Minister of Agriculture and Fisheries
<i>President</i>	Mr R.J. Ballinger, OBE, JP, B.Ag. Sc.
<i>Chairman of Executive</i>	Mr A.G. Jolliffe, NDH, Dip PRA, MSc. (Indiana), FIPRA, ANZIM
<i>Chairman of Examining Board</i>	Dr R.C. Close, M.Sc., Ph.D.
<i>National Secretary</i>	Mr D.B. Cameron, B.Sc., Dip. Tert. Ed. P.O. Box 12, Lincoln College
<i>Annual Journal Editor</i>	Mr M. Oates, B. Hort. Sc. (Hons) (Reading)
<i>Bulletin Editor</i>	Ms P.J. Gibbons, Dip. Hort. Dip. Hort. (Kew)
<i>Student's Editor</i>	Mr N.W. Owers, N.C.H.

The Editor welcomes articles, letters and news items for consideration of publication.  
Contributions should be addressed to the Bulletin Editor, P.O. Box 12, Lincoln College.

Views expressed are not necessarily those of RNZIH.

Registered at Post Office Headquarters, Wellington as a magazine.

# EDITORIAL

No doubt you'll be surprised to receive the Bulletin so soon after the summer issue. This is mostly a business Bulletin. Your postal voting form for the National Executive is on the centre page. As there are four vacancies and seven candidates there must be a postal vote according to the constitution of the R.N.Z.I.H.

Biographical details have been provided by the candidates. They are all well known in horticultural circles as well as in the Institute. Your voting paper must be returned by 4 May 1987 so you should give this matter your immediate attention.

As well as election information the Institute's annual accounts are published so they can be perused before the Annual General Meeting in Hamilton. Conference information is repeated in case you mislaid the forms in the last Bulletin.

In amongst all this official information we've managed to squeeze in some interesting articles which have been written by Institute members. These include an article by Robert Scott of Otago University about some plants he saw on Maui Island on a recent trip there. Mr G. Henry, who used to work with the Parks and Reserves Department in Rotorua, and is currently Assistant Propagator at the Savill Garden, Windsor Great Park, tells of a plant collecting expedition to Spain.

People at home have also written articles. More information on Notable and Historic Trees, particularly the Museum Street Oak in Wellington which has been the subject of much controversy.

Nick Owers is always busy producing the student section - largely single handed.

Many thanks to these people and all the others who have contributed to this Bulletin.

The winter edition of the Bulletin is scheduled for mid-July. As well as reports from the Conference, I am hoping for lots of articles from members. Winter is an ideal time to sit down and write that article you've always meant to write.

Looking forward to hearing from you.

Regards,

Pamela Gibbons  
EDITOR.

# FROM THE EXECUTIVE OFFICER

Autumn is approaching in Christchurch and the year seems to be rushing by faster than ever before. (Something to do with the fact that as you get older, each year is a smaller percentage of your living memory - so I am told!)

Here at National Headquarters we have a number of "irons in the fire" at present:

1. Computerised records for all members, and student records get closer every day. Most of the required software has been developed, and my staff and I are becoming more familiar with the hardware.
2. We have added a "part-time" staff member to the secretariat, partly to provide horticultural expertise, and partly to offset the fact that our Examinations Officer, Enid Reeves has requested a reduction in hours. She is now working three days a week (Tuesday-Thursday) instead of the previous four days. Our one day per week Horticultural Officer is a retired Lincoln lecturer by the name of John Taylor. Some of you may know him!
3. The Student Handbook is almost complete and will be sent out to all students with examination entry forms in June.
4. A revision of the booklet "Horticulture: The Career for You?" is being undertaken by Mike Oates (our Annual Journal Editor) and should be completed this winter.
5. With the help of Barbara Cave of Dunedin the "Floral Art Handbook" is also being revised and reprinted and this should be completed later in the year.

## ANNUAL ACCOUNTS

A full set of the audited financial statements for the year ended 31 December 1986 is included in this Bulletin. These accounts will be presented to the Annual General Meeting to be held in Hamilton on 16 May 1986. The following comments on the accounts may be of interest to members.

Both the General Account and the Examinations Account show a deficit (\$3,608 and \$5,413 respectively).

A significant proportion of this is accounted for by the fact that depreciation has increased from \$934 to \$2,656 as a result of the purchase of items of capital equipment. (computer, photocopier, filing cabinets, office chairs, etc). In addition a more realistic figure for "books on hand for sale" in 1986 has increased the deficit in the Publications Account by \$4,300. In 1985 and previous years all existing stocks of Annual Journals were valued "for sale" whereas in reality once the Annual Journal is no longer current there is little likelihood of the Institute realising any financial return from the stock on hand. Also the current stock of "Careers" booklets (approximately

1,200) have been given no book value this year since the revision of the booklet is almost complete and the likelihood of selling the remaining stock is negligible.

Substantial increases in postal charges has had a significant effect on the cost of the four quarterly Bulletins, as has increased printing costs. Clearly an increase in subscriptions will be necessary to enable the Institute to continue to provide and upgrade to the quarterly Bulletin.

The Institute will continue to receive a progressively reduced grant from the Ministry of Agriculture and Fisheries, and the Examining Board has already adjusted the 1987 schedule of examination fees to cope with this reduction.

I will be happy to answer further queries on the Annual Accounts at the Annual General Meeting, but overall despite the deficit "on paper" the Institute's financial affairs are in good heart.

I hope to renew old friendships and meet more members in Hamilton in May.

Dave Cameron  
EXECUTIVE OFFICER.

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## BACK ISSUES OF THE R.N.Z.I.H. ANNUAL JOURNALS

I am trying to collect a full set of Journals, so that I can prepare a complete index of articles that have appeared in Journals 1 to 14. Could anyone who has finished with Journal No. 2 (1974), No. 6 (1977), and/or No. 9 (1981) please contact me at the following address:-

Mike Oates  
Editor,  
R.N.Z.I.H. Annual Journal  
Department of Horticulture  
N.Z.T.C.I.  
Private Bag  
LOWER HUTT.

## NOTABLE AND HISTORIC TREES

Early European settlers to New Zealand had a sentimental attachment to the English oak tree perhaps more than to any other species.

Tree No. 49 registered under the R.N.Z.I.H. Notable and Historic Trees scheme is more familiarly known as the Museum Street oak, and is situated behind Parliament Buildings in Wellington.

This tree was registered by the Committee in 1979 and at our request placed on the District Scheme by the Wellington City Council. No-one envisaged that it would ever be endangered, certainly not to be moved for the short distance of eight feet to accommodate a temporary building.

The Museum Street oak is a symbol of the inadequacy of current legislation protecting trees and nobody is more aware of this than Wellington's new mayor Mr Belich. On Saturday, March 14 he demonstrated this concern and support for our scheme when he attended a remedial tree surgery operation being performed on the Plimmer oak. This tree is about thirty years older than the Museum Street oak and is probably contemporary with the three Willis Street oaks also registered under the R.N.Z.I.H. scheme. The Plimmer oak came from an acorn sent to John Plimmer by Sir George Grey when he was stationed in South Africa in 1850.

Oak Trees were popular in Canterbury and H.F. Von Haast in his book 'The Life and Times of Sir Julius Von Haast' records that on July 19 1865, the Canterbury Acclimatisation Society planted their first tree, an English oak 10 feet high. Von Haast wrote "The Government Gardener and workmen engaged in the formation of the grounds of the Society gave three hearty cheers and struck up 'The Brave Old Oak'. A piece of ivy was then planted at the bottom of the oak and entwined round its stem and this ceremony celebrated by the singing of the last two verses of the 'Oak and Ivy'!"

In the Wairarapa there are beautiful old oak trees, particularly around Greytown. In Auckland we hope soon to register the oaks around the Parnell Cathedral. The oaks around Old Government House at Auckland University are also important but they are not yet registered with us.

Although the Museum Street oak in Wellington demonstrated that no tree in New Zealand has adequate legal protection, we urge members of the R.N.Z.I.H. to link with the Tree Registration Officers in their areas, offering help to get New Zealand's significant trees registered. Your Notable and Historic Trees Committee is making a determined effort to get better legislation for trees.

It is now ten years since the scheme was first launched. Much has been achieved and certainly Government have been made aware of our efforts. There remains still a great deal of hard and voluntary work if we are to make progress. We need to educate



and show that a historic tree ranks equally with a historic building or facade. The spending of \$60,000 - \$70,000, the cost of moving the Museum Street oak could have been avoided if the architects had made an effort to integrate the tree into the redevelopment of Parliament Buildings.

(From National and Historic Tree Committee, March 1987).



Museum Street Oak, Wellington.

Encased in sacking through the summer months prior to its removal by Japanese consultants later this year.



PERSONAL NOTE: RON FLOOK,  
CONVENOR  
NOTABLE & HISTORIC TREES COMMITTEE

## THE MUSEUM STREET OAK

Mr John Leech is Head Gardener, Government House, Ministry of Works, Wellington. Recently I have had discussion with John, who has very generously offered to assist the National and Historic Trees Committee with some of its problems.

I particularly welcome this development of a common aim. Dis-agreement is inevitable at times but our main objective must be for legislation. The National and Historic Trees Committee have had letters from tree surgeons pleading for some exchange of scientific information and contact with other arborists in New Zealand. May I suggest that perhaps an association should be formed, in essence, a co-operative. I believe that this will advance the need for a training course, promote an exchange of information, assist practising tree surgeons in obtaining expert advice and so avoid the confusion promoted by other disciplines, who wish to rid themselves of even the meagre protection a Notable and Historic Tree plaque provides. Here follows the case Mr John Leech presents which highlights the problems attendant on the lack of communication and information. This reinforces the need for co-operation. Thank you John.

## MUSEUM STREET OAK

*by John Leech*

The reference in Bulletin 42 to the Historic Oak in Museum Street, like most other printed references of late that pertain to this tree, was based on very little fact. The intention is, and always was, to shift this tree in late winter.

I have had an interest in this tree for the last eight years. Six years ago I was able to advise on the tree surgery work to remove concrete and subsequent decay from it's framework. At this time the aphid infestation was controlled, the layer of tarseal that completely surrounded the bole of the tree was lifted and the tree was fed.

When the Ministry of Works was asked to work with Japanese consultants to move this tree I was concerned. But when I realised the extent of the excavation intended in the vicinity and that the result would be a lowering of the water table in the area to 10 metres below existing ground level, I was happy to be involved in this shift. This gave the tree a better chance of survival than remaining in its present position and having the ground dry out over the long period of construction.



Before work began within the canopy of the tree it was established that there were two root systems on the westside, the lower of which was in very poor shape and that there was another layer of tarseal 600mm below existing ground level. (This also completely surrounded the bole of the tree.) There were also many services in the area, these ran very close or under the tree's root system. One of the gas mains later proved to be leaking on the northwest side.

The decision was made to remove the lower layer of tarseal, which was depriving the main root system of air and water, and to expose the buttress roots. In doing so the upper and healthy root system on the westside would have to be removed. This didn't worry me as it is known that a root system that forms above the main root system at best will check growth of the main root system but often causes serious deterioration. Later when the roots were pruned, prior to the binding of the rootball, it was seen that this had happened. The main root system below the upper root system (i.e.  $\frac{1}{3}$  of the anchorage roots) had deteriorated badly.

This tree has had a very hard life, it has a small canopy and could be referred to as "Stagheaded" (normally a result of the lowering of watertable, but the two layers of tarseal that have surrounded it for most of its life would give that effect). There is some decay in the bole of the tree, but this is minor considering the slow rate that *Quercus robur* decay at. Now that the canopy has had 70% of its foliage removed most of the decay in the canopy has been removed. The decay in the bole of the tree has been sterilized as far as possible and sealed. The tree has a fully wrapped rootball of 1.4 metre radius and I am happy to say that there is a considerable amount of new growth throughout the tree's canopy and that callousing of the pruning cuts has been good.

I believe that it cannot be successfully argued that the work done on this tree to date has been detrimental to its health and that if the status quo had been maintained the tree's future would have been only short-term.



# GARDEN HISTORY SECTION

The Garden History section in the 14th Annual Journal sets a very high standard. Mike Oates, the Editor, has attractively presented items from the first garden history seminar in Dunedin. Included too is Charlie Challenger's valuable paper on 'The Commercial Availability of Conifers in New Zealand 1851 - 1873', and in this same issue, although not in the same section, Keith Hammett's article on 'Some New Zealand Dahlia Raisers'. The section marks a milestone in our understanding of early horticulture in New Zealand.

This year's annual conference is slanted towards early horticulture in the Waikato, this being the theme of the Banks Lecture to be given by Dr L. Barber. One optional session on the Sunday is allotted for garden history. It is hoped that members interested in the subject will show their support by attending this session.

One suggestion at the 1986 seminar was the need for an index to be compiled of garden history articles appearing in past Journals. Is there a volunteer for this job? If so, please inform us c/- Garden History Group, P.O. Box 11-379, WELLINGTON.

## NOTICE OF MEETING OF THE RNZIH GARDEN HISTORY GROUP

VENUE: BRYANT HALL, UNIVERSITY OF WAIKATO

TIME: 4 P.M., FRIDAY, 15 MAY.

This meeting has been arranged to look at the future direction of the group, and to set priorities for the next twelve months. The meeting will be chaired by Mike Oates and will look at the following items:

1. Establishment of a sub-committee, including regional representatives.
2. District Council input into garden history.
3. Project to collate a national list of historic parks and gardens.
4. Endangered plants scheme - Dunedin already have a scheme under way. We will talk about ways of extending this scheme.

Other items will be discussed as necessary. Anyone with an interest in garden history is urged to attend this meeting.

# AWARDS — 1986 EXAMS

## NCH SCHEDULE 1 AMENITY HORTICULTURE

ARMSTRONG	KEITH MATTHEW
BALLINGER	HELEN MARY
BEECROFT	SUSAN LYNLEY
BRYAN	MARGO RUTH
CANT	SHARYN LEE
CLIFTON	ROGER PAUL
DELLABARCA	PHILIPPA JANE
DEWAR	MARK MAXWELL
EADE	CHRISTOPHER BARRY ACRES
GRAY	JOHN MARK
HEWLETT	WAYNE ROBIN
HOOGENRAAD	ROY
HUGHAN	SUSAN KAY
JAMIESON	PAUL JOHN
JENKINS	DAVID LESTOCK
KARETAI	PHILIPPA CLARE WOODCROFT
LEITCH	NEILL DOUGLAS
MacLEAN	IAIN ALASDAIR LACHLAN
McMAHON	STEPHANIE MARIE
MOLLOY	SUSAN CAROLINE RIERA
NOLAN	BARBARA ELIZABETH
PALMERS	MICHAEL HENRY
SALTON	ALISTER LINDSAY
SPARKS	DAVID MARK
STEANS	WILLIAM FRANK CHARLES
WILSON	IAN WHITAKER
CLIFFORD	CARL STEPHAN

## NDH SCHEDULE 1 AMENITY HORTICULTURE

AUGUST	PAUL LYNLEY
BANKETT	LEX JOHN
BRUCE	PETER ASHLEY
CADZOW	EVELYN GRACE
CORLETT	NICHOLAS
HEENAN	PETER BRIAN
HUTCHINSON	IAN ROBERT

McKENZIE	BRENT
MULVAY	GRAHAM ALEXANDER
ORCHARD	MICHAEL JOHN
OUGHTON	CHRISTOPHER
SIMPSON	GARY ARTHUR
THOMSEN	PHILIP JAMES
WILLIAMS	WAYNE DONALD
WOOD	PAMELA FAY
McKENZIE	THOMAS RICHARD JAMES

## **NCH SCHEDULE 2 FRUIT PRODUCTION**

ANSELL	KEVIN AUSTIN
GODWIN	PHILIPPA ALISON
HEGARTY	WILLIAM THOMAS
SCRIMGEOUR	GRAHAM DOUGLAS
SMITH	ERIC JOHN
VAN DER HURST	BERNARD JOHN
CLARK	MICHAEL WILLIAM

## **NDH SCHEDULE 2 FRUIT PRODUCTION**

FALLS	JOHN EDWARD ASHTON
GRIMMETT	PHILIP JOHN
LELIEVELD	JOHANNES FRANCISKUS
MOCHAN	LESLEY HELEN
REYNOLDS	RAYMOND NOEL
WARD	PHILIP JOHN

## **NCH SCHEDULE 3 VEGETABLE PRODUCTION**

CANT	GLENN
PECRUME	KAREN RUTH

## **NCH SCHEDULE 4 NURSERY PRODUCTION**

ANDERSON	GRAEME KENNETH
CORBETT	GEORGE FRANCIS
DEAN	JAMES LIONEL
HAYNES	KAREN HAZEL
HOSKEN	MARK BLAIR
HOUGHTON	LLOYD ANTHONY
LUDDON	PATRICIA MARY
VISSER	MARIE-LOUISE
WILTON	CAROLYN MARY

## **NDH SCHEDULE 4 NURSERY PRODUCTION**

AYTO	RICHARD GRAEME
CARSON	ANTHONY DAVID
COULTER	MURRAY HOWARD
HAWKER	JEREMY RICHARD
LAMB	DAVID STRATHERN
MILLER	JAMES BRUCE
PETLEY	MARY BAIN
SMITH	ROBERT NESBIT
SPURWAY	MERVYN IAN
STEVENSON	JOHN STEWART

## **CERTIFICATE IN HORTICULTURAL THEORY**

COX	ROGER GRIFFITH
MARTIN	BLAIR ANDREW
NICHOLSON	EVELYN JEAN
PARRY	PETER BERNARD
PARKES	PHILIP GEORGE
SLATER	MAXINE GILLIAN
SMITH	REX GRAEME
YATES	JOCELYN MARGARET ANNE

## **CERTIFICATE IN PARKS PRACTICE — GROUNDSKEEPING**

NIVEN	SIMON JOHN
PIKE	DAVID ANTHONY
WILKIE	EAMONN MARK



ANNUAL REPORT FROM CHAIRMAN OF THE NATIONAL EXECUTIVE  
TO THE ANNUAL GENERAL MEETING

MAY 1987

Fellow Members of the R.N.Z.I.H.

OUT OF THE DARK AGES AND INTO THE 20 CENTURY

Apple Macintosh has joined the national office in Christchurch to cope with the many tasks he/she can do so well. Complete with 512K and 800K external Disk Drive, coupled to an Image Writer II printer, Apple is going to make things easier, quicker and better in the future.

Please don't write to Dave Cameron and his staff for the impossible yet because there is an awful lot of information to be put on the system yet.

The National Executive are proud that now we can see progress in modernising the secretariat of the Institute to provide an even better service for its members.

THE NATIONAL GARDEN FAIR sponsored by General Finance in association with the R.N.Z.I.H. proved very successful. It was held at Trentham Racecourse 28-30 November. As a first step into a different area it was a success but also a learning exercise. There is room for improvement by the Institute and the exhibitors and the organisers. Future shows will benefit greatly.

DISTRICT COUNCILS provide essential forums for members to get together for fellowship and sharing of knowledge. Be sure to attend the meetings. The National Executive supports the work being done by all District Councils.

Wellington District Council have set up an annual lecture in honour of the late Ian Galloway O.B.E., A.H.R.I.H. A marvellous thing to do in honour of one of our members who did so much for horticulture in New Zealand.

Dunedin District Council who organised last year's successful Annual General Meeting - have produced a teaspoon and lapel badge with the Institute's logo on it. They are really good so buy your set now.

Wanganui District Council - The National Executive had great pleasure in approving the establishment of a District Council in Wanganui. Well done.

THE NATIONAL EXECUTIVE meetings provide lively debate on many subjects always with the members' interests at heart. If we could do everything we want to do for you it would be great. We have to set priorities to make the best use of our limited resources.

SPECIAL GENERAL MEETING - 20 August 1987. At this meeting we changed parts of the Consitution to create new catagories of membership. Of particular note is the introduction of Associate Members for those over 65 who have been members of the Institute for 10 years.

GOVERNMENT GRANT - EXAMINATIONS. Rogernomics struck us as well. The Government cut \$15,000 from our grant this year (1986) and 10% cut for the next five years. i.e. 50% cut. Luckily we were able to recoup some of that from exam fees. While we have relied on this grant, and still will, it is only a very small proportion of our examination budget.

PUBLICATIONS. Mike Oates, ets. have produced publications extremely well this year. The new Annual Journal is fantastic - every member must get one. Reviews of our other publications are underway for reprints etc.

GARDEN HISTORY - This group is growing and the material being produced for publication is great. New Zealand and the New Zealand garden is coming of age as we discover more about our early gardens.

NOTABLE AND HISTORIC TREES has really reached the top. The Oak tree in Parliament Grounds caused a lot of root disturbance when attempts were made to prepare it for transplanting. Dr Wall, The Speaker of the House, met with Ron Flook and Richard Nanson (Wellington City Council) on several occasions. Inevitably the tree will be shifted.

The concerns over this tree are major. It was registered with the R.N.Z.I.H. on the Wellington City Council District Scheme - yet no-one asked us or Wellington City Council about it before carrying out work.

The awareness of and the profile of the Notable and Historic Tree Scheme is now well known in Parliamentary circles. We hope to have proper legislation to protect these trees when the Department of Conservation is able to function properly and examine this issue.

BEQUEST. Miss D.D. Baker of New Plymouth died this year, and, her will left approximately \$30,000 to the Institute. Much of this is yet to be realised from mortgages etc. We are very grateful for this Bequest. Miss Baker was not - as far as we know - a member of the Institute.

THE NOMENCLATURE COMMITTEE recommended the R.N.Z.I.H. become the N.Z. Cultivar Registration Authority for all cultivars of New Zealand plants. This was accepted and steps are being taken to have this ratified.

#### CONCLUSION

From all these words in this report you can see that the Institute is making progress. Fighting to get into the 20 Century, improving its performance in many areas and looking forwards.

We hope to have a new membership brochure printed in 1987 and a set of portable display boards to further promote this Institute.

I have served three years now as Chairman of the National Executive. It has been really good and I believe real progress has been made. Remember all of us on the National Executive are volunteers and all with a commitment to horticulture.

Thanks must be expressed to all of the National Executive members and to Dave Cameron, Enid Reeves, Vicki Black and all those who perform vital tasks at a national level.

Finally, thanks to you - Members of the Institute - who run District Councils, attend meetings and lectures, promote the Institute and those of you who work in and enjoy this wonderful profession.

A.G. Jolliffe  
CHAIRMAN  
NATIONAL EXECUTIVE.

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### R.N.Z.I.H. BADGES AND TEASPOONS

These will be on sale at Conference 1987 or can be obtained from:-

Mrs R. Bagley  
31A Lonsdale Street  
Belleknowes  
DUNEDIN.

Badges	\$5.00 each
Teaspoons	\$4.00 each
Postage and Packing	.50 each (Bulk orders \$1)
Cash with order	
Cheques to Otago District Council	R.N.Z.I.H.

THE ROYAL NEW ZEALAND  
INSTITUTE OF HORTICULTURE (INC.)

FINANCIAL STATEMENTS  
FOR THE YEAR ENDED 31 DECEMBER 1986

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THE ROYAL NEW ZEALAND INSTITUTE OF HORTICULTURE (INC.)

BALANCE SHEET  
FOR THE YEAR ENDED 31 DECEMBER 1986

1985	<u>CURRENT LIABILITIES</u>	1986	1985	<u>CURRENT ASSETS</u>	1986
-	G.S.T.	199	714	Subscriptions in Arrears	-
10,042	Accounts Payable	12,535	8,690	Bank of New Zealand	3,271
2,285	District Council Funds Suspense (Note 3)	2,630	1,444	Sundry Debtors	500
			6,538	Books on Hand for Sale	2,238
12,327	<u>TOTAL CURRENT LIABILITIES</u>	15,364	-	B.N.Z. Term Deposit	-
			-	P.O.S.B. - Current Account	-
1,275	<u>PUBLICATIONS RESERVE</u>	-	28,877	B.N.Z. Finance - Debenture Stock	22,162
	Notable & Historic Trees Committee (Note 4)		46,263	<u>TOTAL CURRENT ASSETS</u>	28,171
				<u>DEPOSITS HELD FOR FUNDS (Note 6)</u>	
37,013	<u>ACCUMULATED FUNDS</u>		2,476	B.N.Z. - Autoaccess Account	4,047
1,115	Balance 1.1.86	39,478	4,300	B.N.Z. Finance Co.	4,300
1,350	Examinations Account (Note 2)	(5,413)	400	Christchurch City Council	400
	General Account	(3,608)	1,275	B.N.Z. Notable and Historical Trees	-
			6,800	B.N.Z. Term Deposit	6,800
39,478	<u>ACCUMULATED FUNDS 31.12.86</u>	30,457	15,251	<u>TOTAL DEPOSITS HELD</u>	15,547
				<u>FIXED ASSETS</u>	
2,124	<u>TRUST ACCOUNT BALANCES</u>		6,219	Office Equipment (at cost)	20,635
1,644	Endowment Fund	604	3,104	Less: Accumulated depreciation	5,760
752	F. Cooper Memorial Fund	783			
	J.A. Campbell Memorial	328	3,115		14,875
736	Prize Fund				
	Junior Memorial Prize	262			
	Fund				
811	D. Tannock Memorial	371			
	Prize Fund				
2,219	P. Skellerup Prize Fund	734			
2,244	R. Skellerup Prize Fund	759			
819	D. Mackenzie Memorial	395			
	Prize Funds				
200	Sir Victor D. ... ard	36			
11,549		8,500			
584,629		12,772			
=====		\$58,593			
		\$64,629			
		=====			

*J. H. G. G.*  
26/1/87

THE ROYAL NEW ZEALAND INSTITUTE OF HORTICULTURE (INC.)GENERAL ACCOUNT STATEMENT AND  
INCOME AND EXPENDITURE ACCOUNTFOR THE YEAR ENDED 31 DECEMBER 1986

	<u>1986</u>	<u>1985</u>
<u>INCOME</u>		
Subscriptions (note 7)	34,734	21,559
Donations	746	72
Sundry Receipts	220	353
Interest	5,551	5,696
Net deficit from Publications Account (Note 5)	(15,100)	(4,319)
Sponsorship	2,000	-
	<hr/>	<hr/>
<u>TOTAL INCOME</u>	28,151	23,361
<u>LESS EXPENDITURE</u>		
Accident Compensation	274	161
Advertising	367	299
Contributions paid to District Councils (Note 8)	4,139	-
Salary, wages and secretarial services	12,081	7,861
Audit Fee	342	280
Depreciation	532	934
Printing and Stationery	2,149	1,567
Postages, telegrams, telephone charges	1,600	1,043
General Expenses	561	122
A.G.M. & Travel Expenses	7,713	7,163
Grant - Notable and Historic Trees Committee	1,000	750
Office Rent	698	1,731
Typewriter Expenses	203	100
McGaskill Fund	100	-
	<hr/>	<hr/>
	31,759	22,011
<u>EXCESS EXPENDITURE OVER INCOME</u>	<u>\$3,608</u>	<u>\$(1,350)</u>
	=====	=====

The notes on pages 4 and 5 form part of and are to be read in conjunction with these accounts.

*J. R. R. R.*  
26/3/87



THE ROYAL NEW ZEALAND INSTITUTE OF HORTICULTURE (INC.)EXAMINATIONS ACCOUNTINCOME AND EXPENDITUREFOR THE YEAR ENDED 31 DECEMBER 1986

<u>INCOME</u>	<u>1986</u>	<u>1985</u>
C.H.P. Enrolments	9,790	7,635
Registrations	8,874	4,085
Examination Entry	67,631	40,948
Sundry Income	938	47
Government Grant	35,308	39,145
Loder Cup Committee	1,350	1,500
<u>TOTAL INCOME</u>	<u>123,891</u>	<u>93,360</u>
 <u>EXPENDITURE</u>		
C.H.P. Enrolments	10,313	7,337
Audit and Accountancy Fees	1,368	1,120
Exam Board Expenses	11,921	12,320
Examiners Fees and Expenses	12,487	11,981
General Expenses	92	574
Loder Cup Committee	1,350	1,500
Hire Examination Room	-	135
Postage and Telephone	5,839	3,710
Printing and Stationery	13,263	4,279
Secretarial and Office Wages	67,747	49,289
Office Rent	2,800	-
Depreciation	2,124	-
	<u>129,304</u>	<u>92,245</u>
 <u>EXCESS OF EXPENDITURE OVER INCOME</u>	<u>\$5,413</u>	<u>\$(1,115)</u>
	=====	=====

The notes on pages 4 and 5 form part of and are to be read in conjunction with these accounts.

*L. K. Ho*  
26/1/87

THE ROYAL NEW ZEALAND INSTITUTE OF HORTICULTURE (INC.)NOTES TO THE FINANCIAL STATEMENTSFOR THE YEAR ENDED 31 DECEMBER 1986Note 1 STATEMENT OF ACCOUNTING POLICIES:

The following accounting policies have been adopted:

Inventories:

Books on hand are valued at the lower of cost and net realisable value.

Depreciation:

Fixed assets are depreciated on a straight line basis which will write off cost over a period of five years.

Interest Received:

Interest receivable has been included in the accounts on a cash basis.

Note 2 EXAMINATIONS FUND

As from 1979, the Examinations Fund is accounted for by a separate Income and Expenditure Account. All costs relating to the Examinations Account are charged to that account. Some items of expenditure relating to both the General and Examinations Account, namely salaries and audit fees, have been apportioned between the two accounts on a basis determined by the Executive.

Note 3 DISTRICT COUNCIL FUNDS IN SUSPENSE

These are funds received from District Councils which are no longer operating. Interest is compounding and the funds are held separately in the Bank of New Zealand Savings Bank.

Note 4 NOTABLE & HISTORIC TREES COMMITTEE

The asset and liability relating to the Notable and Historic Trees Committee has now been offset, as the funds are held and used by the said committee. The Royal New Zealand Institute of Horticulture will continue to pay a yearly grant to the committee.

*J. H. H. H.*  
26/3/87

THE ROYAL NEW ZEALAND INSTITUTE OF HORTICULTURE (INC.)NOTES TO THE FINANCIAL STATEMENTS (Cont.)FOR THE YEAR ENDED 31 DECEMBER 1986Note 5 PUBLICATIONS ACCOUNT

<u>Sales:</u>		11,073
<u>Less:</u>		
Cost of publication	21,873	
Adjustments for decrease in stock on hand	4,300	
		<u>26,173</u>
<u>NET DEFICIT FROM PUBLICATIONS FOR YEAR:</u>		<u>\$(15,100)</u> =====

Costs of printing and distributing four issues of the quarterly bulletin free to members are included in this account.

Note 6 TRUST ACCOUNT BALANCES

The funds in Trust Accounts are represented by investments and bank accounts. The capital portion represents the contributions of the donors and the income portion represents the unexpended portion of accumulated income to date.

	<u>1986</u>	<u>1985</u>
District Council Funds in suspense	2,630	2,285
Trust Account Balances	13,272	11,549
Notable and Historic Trees Committee	-	1,275
	<u>\$15,902</u>	<u>\$15,109</u>
	=====	=====

Note 7 The National Executive introduced a policy during the year ended 31 December 1984 of converting the timing of subscription payments from an 'arrears' situation to an 'advance' situation.

Subscriptions in relation to the period ended 31 December 1986 are levied on members in September 1985 and are taken to income in the year in which they are received.

Note 8 Further to the National Executive policy as per Note 7, capitation fees are now calculated and paid to District Councils six months after billing of subscriptions, and are recorded in the accounts on a cash basis.

*J. K. K. K.*  
26/5/87

AUDITORS' REPORT  
TO THE MEMBERS OF  
THE ROYAL NEW ZEALAND INSTITUTE OF HORTICULTURE (INC.)

We have audited the attached balance sheet and income and expenditure accounts in accordance with accepted standards, and have carried out such procedures as we considered necessary.

Some sources of publications income cannot be verified prior to entry in the records, and our examinations of these has been confined to testing recorded receipts to the bank accounts.

In our opinion, but subject to this limitation, the balance sheet and income and expenditure accounts give a true and fair view of the state of the Institute's affairs as at 31 December 1986, and of its income and expenditure for the year then ended.

*Touche Ross & Co*

TOUCHE ROSS & CO.  
Chartered Accountants

Christchurch, N.Z.

*26 MARCH, 1987*

# THE PLANTS OF SIERRA DE GREDOS

by Mr G. Henry

In August last year, myself and a workmate left daily routines behind us for an expedition to the Central Sierras in Spain. We departed from Heathrow Airport on a cool English summer's morning! We arrived to a mid-day temperature of 26°C at Bilbao on the North coast. Our aim of this trip was to travel Southward to the Central Sierras, West of Madrid.

Sierra De Gredos is one of a natural progression of mountain ranges appearing from the West in Portugal. These mountains cover roughly a 400km stretch to Sorria in the North East where they taper off to a high tableland. Having been formed from ancient crystalline core, they have a strong characteristic of granite rounded summits, with deep rocky glens and gently sloping hillsides are typical of these old mountains.

Hot summers are inevitable with clear blue skies and long days of sunshine causing the atmosphere to heat up. Even though the inblowing winds from the Atlantic and Mediterranean occur, the incoming moisture is soon engulfed in the heat and little precipitation is felt. The hottest day we experienced was the 15th August of 39°C. Average rainfall here a year is between 1000mm to 1500mm (40-60").

Gredos is the third highest range in Spain at 2,592m. It is not particularly rich in Alpine flora compared to the fame of the Pyrenees in the North. These being the second highest and the Sierra Nevadas in the very South, beating them all by 74metres.

Using the old walled city of Avila as our initial base, we travelled to the village of Hoyocasero, en-route to Gredos. One or two miles South of there on a North facing slope we found a Pasque flower growing, *Pulsatilla alpina*, spp. *apiifolia*. Here it grew in a clearing of Pine forest, *Pinus sylvestris*. The seed heads were ripe and ready for picking and was growing here in abundance. It has stems of up to 60cm and flowers of sulphur yellow. Unlike the straight species *alpina* (which is white) it is quite rare in cultivation in the United Kingdom. With it was growing a low cover of bracken and shrubby *Cytisus*, with the added delights of *Ranunculus humilis*, *Lilium martagon*, *Aquilegia dichroa*, *Centaurea rhaponticoides*, *Verbascum* and *Echium* species. It must have been a sight to have seen this clearing in the shade of the Pines at full bloom in June.

The genus *Pulsatilla* encounters 30 species and occur throughout Europe and Western Asia. In cultivation it is easy to grow, but requires sowing as soon as seed is ripe, like all species of the Ranunculaceae family. Although this is the case, germination was slightly erratic, but still a number of seedlings are now growing on, both in the U.K. and New Zealand.

In this area there was plain evidence of overgrazing of livestock mainly of Goats. Roadside verges had been completely denuded of vegetation in some cases, and was most alarming. Not only here, but all of the Mediterranean area is suffering from the same problem. The need for conservation and man to become fully

aware of it, has never been so important.

From Hoyocasero we travelled South westward to the village of Hoyas Del Espino (1484m). From this approach began our 16km ascent to Gredos.

The prevailing woodland here was basically *Pinus pinaster* and *Quercus pyrenacia*, but the roadside flora varied a great deal more. Large clumps of St. Bernards lily, *Anthericum liliago* grew with *Lavandula stoechos* ssp. *pendunculatus* and *Thymus vulgaris*. *Digitalis thapsi* (a dwarf relation to the woodlander *D. purpurea* the Foxglove) revelled in dry stoney crevices. *Dianthus langeanus*, *Campanula lusitanica*, *Erodium carvifolium*, *Allium* sp. and *Orabanche rapum - genistae* were all roadside plants.

This *Orabanche* is a complete parasite, needing full assistance of members of the Pea family. In this case, as the name implies, it was growing at the base of a *Genista* on rocky verges. It had finished flowering and had set copius amounts of seed to collect.

Numerous bell shape flowers of reddish yellow appear in May to June on stems of 15cm, bearing no foliage. Quite a curious group of plants and most likely difficult to cultivate.

At the end of the road we took a track for the last upward stretch toward the Peak. Here at 1770m a meadow spread out before us embroidered with *Gentiana boryi*. This is a caespitose perennial, with simple ascending flowering stems up to 10cm and dark blue flowers of 2 to 5cm in length. A real delight to say the least!

Above the meadow grew a band of *Cytisus*, *Genista* and *Echinopsartium* all being leguminoseae, termed the Hedgehog Zone. A common combination at this altitude in these mountains. At this point the Peak, Pecos Almanzor stood out before us, rising high up in the clear midday sky. Shimmering at its foot was the lake, Laguna Grande De Gredos.

By late afternoon, camp had been set up near the waters edge. Flowering plants here included *Linaria saxatilis*, a densely glandular hairy perennial, with small canary yellow flowers. *Merendera montana* was abundant resembling a *Crocus* and *Armeria* spp. which are such a jumbled lot to distinguish. *Saxifraga moschata* grew tightly in dense hummocks on rock ledges, but had almost finished flowering. *Erygium*s grew in singles and in large drifts along with *Veratrum* sp. But the real aim was to locate the endemic, *Antirrhinum grosii*.

There are 42 species of *Antirrhinum* belonging to the family Scrophulariaceae. 23 occurring in North America, the other 17 in Europe. 14 of these occur in Spain and have very restricted distribution.

After sometime we discovered a solitary specimen growing as a true fissure plant on a South facing perpendicular rock face. Diligently we collected the remainder of seed. Another few days and we could have missed any trace of it. On the North facing Cliff we were fortunate to find another three younger plants and here in the shade, the last four flowers of the season were in good bloom. They were of creamy white colour, up to 3½cm



with a faint purple strip on the lip and hairy glandular deep green leaves on spreading stems. A most handsome plant.

It was reassuring to see a number of seedlings growing on as well and under no obvious threat of extinction from man or the mountain Goats, the Ibex. This is obviously due to its inaccessibility, growing out of reach from these ravaging creatures, which otherwise comb the higher mountain parts and deplete the vegetation.

With reference to the Bulletin of the English Alpine Garden Society Vol. 34 1966, Richard Gorer mentions this species. He reports that in cultivation it grows well in the U.K. although at the time of writing it had not faced a severe winter. Also cuttings root easily but is shy to set seed.

On our return to England and our jobs at the Savill Gardens, Windsor Great Park, the seed was stored in the fridge for an early Spring sowing. Some has been sent to Edinburgh Botanic Garden and to a National Trust Garden, 'The Courts' in Wiltshire. Also to David Sutton a botanist at the British Museum (Natural History) London, who specialises in Antirrhinum species. At present he is writing a monograph on the genus which will be a well waited for and invaluable reference to a Botanically and Horticulturally interesting group of plants.

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NEW ZEALAND HOSPITAL GROUNDS ADMINISTRATORS  
AND MANAGERS ASSOCIATION

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This is a new representative association that has recently been formed. The secretary is Mr W.T. Wright, Grounds Superintendent of Southland Hospital.

Further information can be obtained from him at:-

Grounds  
Southland Hospital  
Kew  
Invercargill  
SOUTHLAND, N.Z.

# COLLECTING SEEDS

1. Collect seeds only when ripe.
2. Some seeds will germinate if collected when slightly immature.
3. Be alert - some seeds disperse quickly.
4. Use paper bags to collect seed into - they don't sweat.
5. Sometimes you can spread a sheet under a shrub or tree so seed can drop or be dropped onto it.
6. Collecting fern spores. Cut the frond and place directly into a bag.
7. Dry seeds can be stored for sometime without cleaning.
8. Fleshy fruit need to be cleaned as soon as possible. Flesh can be removed by pulping and washing in a sieve.
9. Seed cleaning. Remove surplus material using suitable methods:
  - Dry seeds - crush and remove 'husks' by hand or using sieves or by blowing husks away.
  - Fleshy seeds - pulp and wash.
  - Sticky seeds - separate and use fine sand to keep separate.
10. Storage - Store in dry cool place. An old refrigerator is ideal.
11. Pests and Diseases. Seeds may need treatment using chemicals to prevent the infestation of pests and diseases. Use normal precautions.
12. Do not store for too long as seed viability deteriorates over time. Some seeds will not be viable in a few weeks.

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## PALM AND CYCAD SOCIETY OF NEW ZEALAND

NEW MEMBERS WELCOME  
AUCKLAND MONTHLY MEETINGS  
QUARTERLY INFORMATIVE MAGAZINE  
SEED BANK, FIELD TRIPS, SALES TABLE  
ENQUIRIES TO P.O. BOX 3792, AUCKLAND.

# MAUI ISLAND: SOME HORTICULTURAL IMPRESSIONS

by Robert Scott  
University of Otago

Just 20 minutes flying time from Honolulu, Maui offers the visitor a marvellous climate, magnificent beaches, great golf courses and for the horticulturist, interesting tropical flora.

Second largest of the five main islands which together comprise the state of Hawaii, Maui is often referred to as the 'Valley Isle' probably due to the island's history of volcanic activity. Mt. Haleakala, the largest dormant volcano in the world, dominates the island and dramatically affects the vegetation types. These range from lush, tropical rain forest to semi arid areas characterised by thorn bushes and prickly pear cactus; in places little more than 20 miles apart.

It was interesting to discover that many plants which appear to grow wild on Maui are in fact not native or indigenous. Most of the spectacular flowering trees, and fruits such as coconut, banana and breadfruit were introduced to the Hawaiian Islands from tropical America, Africa, India and other parts of the Pacific. Some of these introduced shrubs, Frangipani (*Plumeria*) and ginger, produce sweet scented flowers, the spicy fragrance of which is almost intoxicating. Most leis are made from frangipani flowers and scented potpourris are popular tourist souvenirs.

The 50 mile drive to Hana, famous for its 600 bends and 54 bridges, is a scenic wonderland and a special treat, not unlike travelling through a giant conservatory. To see philodendrons scrambling 25 feet up tree trunks and with huge leaves some two feet across was most impressive. Fruit salad plants (*Monstera*), ginger plants, crotons, hibiscus, palms and many other colourful tropical plants grew in great profusion along the roadside. The pioneer aviator Charles Lindbergh made his home on Maui and is now buried in the church yard of an historic Hawaiian church near Hana.

In the Kula region, on the drier up country slopes of Mt. Haleakala or 'House of the Sun', South African proteaceae are widely cultivated. In the mid 1960's the first protea seeds were planted at the University of Hawaii's Maui Agricultural Research Centre and from these modest beginnings *Protea*, *Leucospermum*, and *Leucadendron* are now extensively grown for cut flowers. The blooms are exported in large numbers to mainland U.S.A. In the nearby Kula Botanic Garden it was interesting to see a New Zealand raised hybrid protea growing among Australian and South African plants.

Beaches and swimming pools apart, brilliantly coloured and very fragrant flowers are lasting impressions of a beautiful island.

# BOOK REVIEW

*by Ron Close*

## "NURSERY STOCK MANUAL"

This is a book, first published in 1975, but now revised (1985). It has been written by J.G.D. Lamb, J.C. Kelly and P. Bowbrick and has been published by Grower Books, 50 Doughty St, LONDON WC IN 2LP. There are three parts to the book.

Part I, of 64 pages, consists of seven chapters on general aspects of propagation.

Part II, of 156 pages, provides information on propagation of specific genera, listed alphabetically.

Part III, of 76 pages, deals with nursery management (nine chapters).

Aspects dealt with include economics, marketing, planning, use of computers and establishing a business.

This book would seem to be of value, not only to students but all involved in nursery work.

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## "PRACTICAL HINTS FOR BUDDING AND GRAFTING FRUIT AND NUT TREES"

*by D.McE. Alexander*

Published by CSIRO, Australia, 1986

This booklet, of 31 pages, is a very useful practical guide to budding and grafting.

The first part of ten pages explains four methods of budding and seven methods of grafting, and uses an appropriate diagram and good photographs.

The second part of 17 pages, including the index, provides specific information on the vegetative propagation of eleven fruit and nut crops. There are references for further reading.

This is an excellent publication for those persons involved in this area of plant propagation.

# STUDENT SECTION

## EDITORIAL

Although I am writing this editorial for the autumn edition of the Bulletin, waking up the other morning to a temperature of 3°C, it seemed winter had arrived already! Strange weather patterns over the last couple of months has seen days typical of each of the four seasons represented.

Fortunately the weather came right long enough for New Zealand to draw the cricket test series against the West Indies! - What's this got to do with horticulture you ask? Well maybe the game itself hasn't a lot but preparation for it involves an indepth application of turf culture for weeks and weeks prior to a big game. It is interesting to note the sharp contrast between the pitch and the outfield with the wicket itself being a dry, hard, closely shaven area set in the middle of a luscious expanse of green grass - without a weed to be seen. Autumn is an ideal time for turf renovation whether in the home garden or on the park and sports field.

Interest at this time of the year centres largely on autumn foliage colours, but another aspect of plant life, which provides for diversity in colour, is seen in the ripening of fruits. Several exotic members of the Rosaceae family, for example *Cotoneaster*, *Malus*, *Pyracantha*, and *Crataegus* species, provide a bright range of orange, red and yellow colour. Several of our native plants also produce colourful fruits including *Coprosma* spp., (*Coprosma brunnea* has very attractive blue, translucent drupes), Snowberry, *Gaultheria depressa* var. *depressa*, and mahoe or whitey-wood, *Melicope ramiflora*.

The autumn crocus, *Colchicum autumnale*, is flowering at this time of year, and in addition to being an attractive flowering genus, *Colchicum* spp. are unique in that they contain colchicine, a toxic alkaloid which is used to induce polyploidy (chromosome doubling) in some plants. It does this by interfering with spindle formation in mitosis whereby the chromosomes divide but the cell does not. Such genetical breeding is used to produce more desirable plants. For example, better flowering in lilies, *Lilium* spp., and orchids, *Cymbidium* spp., and *Cattleya* spp., and better fruiting in grapes, *Vitis vinifera* cultivars.

With daylight saving now over, the longer nights enable more time to be spent studying through your assignments. Also give a thought to putting pen to paper and writing an article of interest to the Bulletin.

Kind regards,

Nick Owers.

# NATIONAL DIPLOMA IN HORTICULTURE

## SUBJECT 19 — PROJECT

### EXAMINER'S COMMENTS

As a result of the revision of the National Diploma in Horticulture, 1986 was the first year in which Subject 19 "projects" were submitted. There was a total of 45 projects on a wide range of topics. Most were on topics of special interest to the candidates and indicated, in most cases, a strong commitment to search out information and present it in a report. The overall standard was good. However, the following comments are supplied for the guidance of future candidates in Subject 19 so that a consistency in the standard of projects can be achieved.

1. Reports should be typed in double space, on one side only of A4 sheets of paper.  
This is a recommendation to candidates to improve the overall appearance of the projects, to help maintain professional standards, and to make the projects more satisfying for the candidates as well as being easier to read by the examiner.

2. All botanical names, both common names and Latin binomials must be spelt correctly, and the Latin binomials must be underlined.

3. With most reports it is possible to provide references to sources of local and national information. References should be cited in text e.g. "Smith (1986) has shown ...", or "Observations have been made on this aspect of plant growth (Jones 1986)." When there are three or more authors they are cited "Smith et al. 1986".

References must be listed alphabetically at the end of the project. Candidates should adopt a standard method of writing references, either follow the format adopted by D.S.I.R. Journals, or that used by an article in the R.N.Z.I.H. Annual Journal No. 14 (1986/87).

4. Where appropriate, line diagrams, maps, or photographs should be supplied. If these are used then each must have a caption. The illustrations should be numbered Fig. 1, Fig. 2 . . . ., and each should be referred to in the text, and so relate text to photographs, etc.
5. Descriptions of trials and trial results can be included in the report. If necessary, include a well-designed table to present information. Tables should be numbered "Table 1, Table 2 . . ." and cited in text.
6. Careful consideration must be given to the presentation of the project. Prepare a draft outline of the project, with section headings, so that it is possible to see how to present all the information available. An introduction should be included to show why you chose the topic and the



way in which the report will cover the topic.

7. Avoid the use of sentences that are too long. Avoid the indiscriminate use of personal pronouns "I, we, my, etc.". In general they are not used in preparing projects but can be used occasionally in certain articles to emphasize that the work is your own.
8. Bearing these points in mind, read articles so that information can be gained on:
  - a) the way the projects are presented
  - b) the use of tables and figures
  - c) the citing and listing of references, and
  - d) the use on an introduction and headings.

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THE NEW ZEALAND GUARDIAN TRUST COMPANY LTD.

**TEMPLIN TRAVELLING  
SCHOLARSHIP IN ENGINEERING  
AND HORTICULTURE**

The New Zealand Guardian Trust Company Limited, as trustee of the John Richard Templin Travelling Scholarship Trust is now calling for applications from Engineering Graduates of the University of Canterbury and Horticulture or Botany Graduates of Lincoln College or Graduates who have obtained a National Diploma of the Royal New Zealand Institute of Horticulture through the Reserves Department of the Christchurch City Council.

There are two scholarships of up to \$NZ25,000 each this year and they are available for study in the United States of America or Canada and are normally tenable for one year.

Application forms are available from:-

Mr R.L.E. Austin  
THE NEW ZEALAND GUARDIAN TRUST COMPANY LTD  
P.O. Box 9, CHRISTCHURCH.

Closing date for applications is 31 May 1987.

# FLOWER AUCTIONS IN THE NETHERLANDS

*(Taken from a pamphlet published by 'The  
Flower Council of Holland')*

With the flower industry expanding in New Zealand, and Floriculture now being offered as a separate schedule for the National Diploma in Horticulture, it is interesting to get an insight into the workings of the much famed Dutch Flower Auction, to see how the world's leaders in flower production and marketing operate.

The article below serves to give an insight into the efficient marketing system revolving around the auction clock.

Horticulture in The Netherlands - providing a good 60,000 jobs and Contributing a few milliard guilders to the balance of payments - can be roughly divided into the edible horticulture and the ornamental horticultural sector. When we talk about the ornamental horticultural sector, we are mainly concerned with flower bulbs, trees, cut flowers and indoor plants. There are about 20,000 growers, almost 6,000 wholesalers and exporters and nearly 10,000 retailers and landscape contractors working in the ornamental horticultural sector, in which cut flowers and indoor plants are by far the most important products.

Flowers have become 'common property' in The Netherlands, with a wide range of blooming cut flowers and indoor plants available wherever you go. Practically all of these floricultural products are auctioned via one of the twelve flower auctions found in The Netherlands. The auction is of great importance to the grower as well as to the wholesaler and retailer. The Netherlands is indebted here for the creation of a blooming sector of the economy.

## UNITED IN ONE CO-OPERATIVE

The production of cut flowers and indoor plants began slowly at the beginning of this century. The explosive growth in production to several milliard guilders only dates from the seventies. For more than seventy years the auction has been functioning as a pivot around which everything in the flower trade revolves. Every important area of production has its auction; today, huge complexes such as the flower auctions in Aalsmeer and in Westland (Naaldwijk) each have an annual turnover of almost one milliard guilders.

However, the beginning was difficult. At that stage, the growers were still selling their products themselves. That posed many problems. To be both grower and seller is difficult. Buyers would come to the nurseries to purchase their flowers and later on it often became known what prices they had managed to secure. This would then result in one grower being played off against another, creating lower and lower prices. In short, the producer was at the mercy of those in the flower trade.

Until the flower growers followed the example of their vegetable growing colleagues who had discovered the auction system before the turn of the century. That is, the method of selling products to whoever was prepared to pay the highest price. On 29th July 1887, the first "mijn" was heard in Broek op Langedijk for a lot of cauliflower. Even today, this call forms the solid base of a foolproof system of sale for perishable products such as vegetables, fruit and flowers at the "Dutch auction".

The growers have united in co-operatives. The task of an auction co-operative is to sell products at the lowest possible cost to the highest bidder. And this is being accomplished with great success.

Every grower-member of an auction also owns a little share of his co-operative; he has invested some money in it. He elects the managers and also has a say regarding proposed management policies. The idea of the co-operative has been adapted to other aspects of the horticultural industry in The Netherlands, like co-operative banking and buying co-operatives. You will also find similar methods of co-operation in the field of research.

In practice this means that a grower must pay about five per cent of his turnover to the auction. In return the auction ensures via its unique system that the grower's production is sold in the best possible way.

#### EVERYTHING REVOLVES AROUND THE "CLOCK"

Although it is not always easy to find the auction rooms at auction complexes, as many are tens of thousands of square metres in size, this is where it all happens.

The auction clock is situated centrally in the auction room. In front of the clock (mostly there are two clocks in an auction room) are the stands, where the buyers sit, and from where they can keep a close eye on the clock. On the buyers' benches the all-important buttons, which bring the hand of the auction clock to a halt.

Whoever pushes first has bought the lot being auctioned at that time. The buyer has to decide within a fraction of a second whether or not he wants to buy the lot at the price indicated by the hand of the auction clock. The hand moves fairly rapidly from high or low. Pushing too soon means a high price for the buyer (and a satisfied grower of course); pushing too late means that the lot has been snapped up by another buyer. It is exactly this competition between buyers which is most important for the growers. It is not surprising, therefore, that the auction co-operatives strive to have as many buyers as possible on the auction benches for this reason. In turn, the buyers will come, if the auction ensures that there is a wide range of top quality products on offer.

At times, it can happen that there is a large supply of products in a period with little demand. The price can, in such a case, quite possibly fall below the stipulated minimum price of that product. In this event, the hand of the auction clock will keep on turning. The lot is then rejected and destroyed. If this

happens (applying to less than half a per cent of the supply), the flowers and plants are probably in most cases, qualitatively inferior. The grower will not receive any payment for the products being rejected in this way.

The auction (actually acting as the seller) ensures that the grower receives the proceeds of the products sold. The buyer pays the auction for the products he has purchased.

The auction system guarantees the grower has the best possible price for his flowers and indoor plants on the day of the sale, because supply and demand are concentrated in front of the auction clock. Prices, of course, may vary greatly. The grower never knows if he will even get his cost price. If he is unlucky and there is a large supply and little demand for a certain product, he may get a very low price; fortunately the opposite occurs as well.

In spite of this great uncertainty about the price of the output the Dutch flower and plant growers would not miss their auction for anything in the world. The famous "Dutch auction" system, the envy of many growers in other countries, ensure that The Netherlands can continue to maintain its role as leader in the international ornamental horticultural world.

#### COMPUTERS BECOMING MORE AND MORE IMPORTANT

A number of important details have to be determined before any product can be auctioned. The computer is indispensable for this purpose. In most cases the grower or a transport company brings his products very early in the morning to the auction, although, to an increasing degree, some products are brought to the auctions in the afternoon in order to be sold the following morning. The grower completes a delivery note stating how many products he is supplying.

The auction inspectors then add their assessment on the quality of the products. This is important because these remarks on quality are passed on to the buyers during the auction.

Flower trolleys, pulled by means of conveyor chains in the floor of the auction halls, move the products for sale past the auction clocks. When a buyer buys a lot, the computer registers the buyer's number, the lot number, the grower's number, the price, the quantity of packaging material used to pack the flowers, etc. A few seconds later a printer produces a coupon giving all the particulars of the lot bought. Auction personnel coordinate the delivery of the flowers to the buyer's office and packing room elsewhere in the auction complex. The computer can also provide statistical information, such as buyer's accounts which are to be paid on the same day, and information for the growers on the prices obtained for their products. Without the help of modern computers it would be impossible to manage everything so smoothly within a few hours - for supplier, auction and buyer.

#### QUICKLY EN ROUTE TO THE CUSTOMER

The flowers and plants which are delivered and sold in the early

hours of the morning are on their way to the customers in The Netherlands, and abroad, that very same afternoon. The buyers at the auctions have, in the meantime, made sure that the orders have been made up and expertly packed, to avoid any loss of quality. For this reason, an increasing number of air-conditioned trucks are used (the freight is pre-cooled in summer, while frost damage is obviated in winter).

Aircraft are used to transport flowers to far-away destinations such as the United States, the Middle East and Japan. However, a larger proportion remains in Europe; people in The Netherlands are themselves great buyers of flowers, with West Germany, France and England being the most important foreign customers.

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## FORESTS OF 'SUPERTREES'

The world's first test-tube clone of a mature sitka spruce, *Picea sitchensis* (family: Pinaceae) tree, produced by a Northern Ireland researcher, opens up the possibility of forests made up entirely of "supertrees". Such elite trees are at present the one in a 1000 genetic freaks that grow taller, thicker and faster than others of the same species and provide the best timber, reports the London Press Service.

Mr Christopher Selby, from the agricultural botany research division of the Northern Ireland Department of Agriculture, is among a small group of scientists who have perfected test-tube techniques enabling the production of thousands of plantlets from a few tiny buds taken from six-year-old Sitka trees or from very young trees of other conifer species. Now he has gone further by producing a healthy test-tube grown plantlet from a 20-year-old tree. This has been successfully rooted and planted out in a pot, where it has now reached a height of around 150 millimetres.

The ability to clone older trees is essential if supertrees are to be grown in quantity because it is only when - in the case of Sitka - the tree is over 20 years old that it can be identified definitely as an elite type. In maturity a supertree can be as high as 20 metres, which is 4.5 metres taller than the average Sitka.

"We have had made an important step forward by proving that much older trees can be cloned by micropropagation. Now we need to refine our techniques so that we can do this routinely on a large scale," says Mr Selby.

# PHORMIUM AS GARDEN PLANTS

Flax are large herbaceous perennials belonging to the genus *Phormium* in the Agave family. Like grasses they are monocotyledons. The two species native to New Zealand are harakeke or New Zealand flax (*Phormium tenax*) and wharariki or mountain flax (*Phormium cookianum*), *P. tenax* was the most important fibre plant of the Maori who used it for weaving, basket making, cordage and nets. Until recently the fibre was used commercially for cordage and textiles but nowadays it is replaced by synthetic fibre. Many forms were selected entirely for their fibre qualities by both the Maori and in commercial plantings.

## Garden Use

Cultivars grown for ornament belong to both *P. tenax* and *P. cookianum* and hybrids between the two are common. Named cultivars are available in a wide range of foliage colours and growth forms. They are amongst the most useful of our native plants, being equally at home in the shrub border, in pebble or bark gardens and as tub plants. Flax is a hardy coastal plant which will grow in almost any soil or situation, modern cultivars of mountain flax require well drained soils. The quantity of flowers produced varies between cultivars and the shape of the capsule indicates parentage. *P. tenax* has dull red flowers and a short, usually erect capsule, *P. cookianum* has a long, pendulous spirally twisted capsule. This visit the flowers for nectar.

## Cultivation

The species are easily raised from seed, division being the only method of propagation for cultivars. Lift and divide the rhizome in late autumn; each piece must bear one terminal fan and have the leaves shortened by one half. Many coloured cultivars are not completely stable, discard fans with inferior colouring and replant the best in well drained soil. Do not bury the rhizome, plant at the same depth as the parent. A stake will be necessary in exposed situations until new roots anchor the plant. Plants should be divided every three or four years and established plants will benefit from a light application (50g/m<sup>2</sup>) of a general purpose fertiliser in spring. To look their best flax require regular grooming i.e. removing faded, damaged and dead leaves. A slow release nitrogenous fertiliser in spring will encourage new leaf formation and improve foliage display.

Two pests require regular control. Leaf cutting moth is controlled by carbaryl applied in November and March. Scale insect is controlled by orthene and oil combined, applied in November and February. Spray must penetrate leaf bases of the crowns.

Auckland Regional Authority  
Regional Parks Department

A RANGE OF PHORMIUM CULTIVARS AVAILABLE				
SIZE	CULTIVAR	FOLIAGE COLOUR	HABIT	COMMENTS
Large over 150cm	<i>P.</i> 'Black Prince'	bronze	weeping	requires sheltered position leaf ends split, florists foliage
	<i>P.</i> 'Burgandy'	bronze	upright	bold landscaping, erect habit florists foliage
	<i>P.</i> 'Guardsman'	bronze/red variegated	upright	brightly coloured form regular grooming essential
	<i>P.</i> 'Platts Black'	dark	weeping	darkest form available
	<i>P.</i> 'Williamsii Variegatum'	green/yellow variegated	weeping	good for bold landscaping cut out reverting fans
Medium 100-150cm	<i>P.</i> 'Dark Delight'	dark	weeping	excellent dark form
	<i>P.</i> 'Duet'	green/yellow variegated	upright	attractive plant good flowerer
	<i>P.</i> 'Sunset'	bronze/yellow variegated	weeping	best apricot-variegated form for shade, tidy
	<i>P.</i> 'Yellow Wave'	green/yellow variegated	weeping	bright bold effect divide and replant 2-3 yrs
Small 50-100cm	<i>P.</i> 'Green Dwarf'	green	upright	attractive flowers and foliage good drainage essential.
	<i>P.</i> 'Rubrum'	bronze	weeping	good florists' foliage.

# THE USE OF WETTERS, SPREADERS AND STICKERS

## WITH HERBICIDES AND PESTICIDES

Dewdrops glistening on roses are artistic and beautiful - but they are more than that. They are a classic illustration of surface tension.

Surface tension is a property all liquids have in common. It is the result of molecules on the surface being attracted into the body of the liquid. This inward attraction means that the surface contracts if it can, and the force to contract even further is ever-present, causing a tension in the liquid surface - hence the name "surface tension".

Because of the phenomenon of surface tension, water forms droplets and puddles. In fact, water has the strongest cohesive properties and forms droplets and puddles more readily than any other liquid.

But when applying chemical sprays, picturesque droplets sitting on leaves are no use at all. The aim is to obtain maximum contact with the leaf surface.

Plants themselves often have leaves designed to repel water. Leaves that are shiny, waxy or very hairy are difficult to wet. Broad leaves wet more readily than narrow leaves, and erect leaves are more difficult to wet than those lying flat.

The structure of the plant leaf combined with the surface tension of water often means that liquid applied to plants, be it dew, rain or chemical spray, forms spherical droplets that roll off the leaves and drop to the ground.

Where contact or translocated herbicides and pesticides are being applied, this means that much of the spray will drop to the ground, so that the treatment is largely ineffective. Dust on herbage also has a water-repelling effect.

To counteract surface tension and obtain maximum contact with the leaf surface, surfactants are added to spray mixes.

Surfactants, often loosely called wetting agents, are chemicals that reduce surface tension. In effect, they make water wetter.

Three types of surfactant are commonly in use.

### 1. WETTING AGENTS:

These are materials that reduce surface tension and improve the contact between the liquid droplet and the plant surface.

### 2. WETTING AND SPREADING AGENTS:

These enable the droplet to spread over the leaf surface.

### 3. STICKING AGENTS:

These are substances that help the dried spray deposit to



adhere to the plant surface.

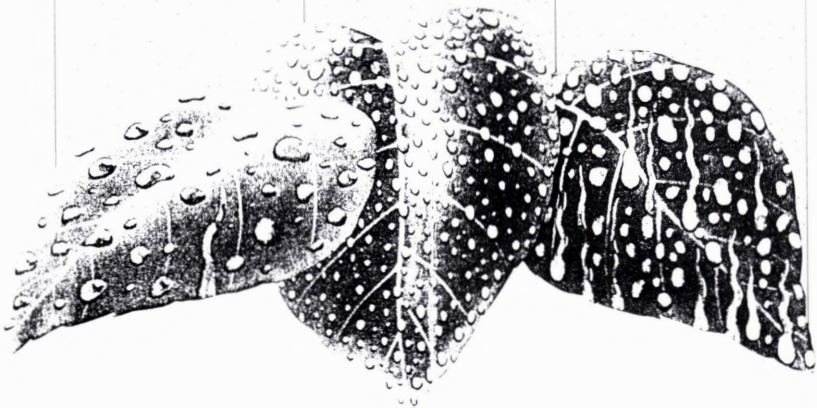
Surfactants may be ionic or non-ionic. The ionic group are either anionic, that is, their surface activity results from the structure of the acid part of the molecule; or they are cationic with the surface activity resulting from the basic part of the molecule.

Ionic surfactants should not be used with ionised agricultural chemicals, for example, paraquat.

Non-ionic surfactants are neutral, and, as a general rule, can be used with most agricultural chemicals. Practically all surfactants available in New Zealand are non-ionic.

When adding surfactants to spray mixes, particular note should be taken of the recommended rates because some spray products already contain surfactants. The table shows the effects of adding too much or too little.

Surfactant content Too little or no surfactant	Surfactant content Correct amount of surfactant	Surfactant content Too much surfactant
<b>Effect</b> Poor spray retention. Does not spread over leaf but forms large droplets that fall off the leaf at many drip points. When dry spray appears as patchy irregular deposits.	<b>Effect</b> High spray retention. Coverage of leaves good and even. Few drip points. When dry spray appears as regular deposit over leaves.	<b>Effect</b> Spray is wasted as there is excess run-off over a long period. There are many large drip points. When dry spray appears as very thin uniform deposit.
		* This can result from inclusion of too many components in the spray mix each containing surfactants.



# WELCOME: to the following new members

Bisley L.	Auckland	Bond R.	Amberley
Boustead D.	Pahiatua	Brittain Ms R.	Auckland
Cathcart G.G.	Christchurch	Cavanagh T.R.	Paraparaumu Beach
Clausen J.J.	Havelock North	Coburn D.	King Country
Cooper M.R.	Napier	Daw J.S.	Hamilton
de Gouw G.A.	Christchurch	Donaldson S.C.	Lyttelton
Farmer A.A.	Paraparaumu	Fowler C.A.	Whakatane
Gemmell A.	Wairoa	Goldsmith H.	East Coast
Griffin L.J.	Westport	Hall L.J.	Invercargill
Heenaghan P.	Marton	Hornby K.P.	Inglewood
Howard P.E.	Auckland	Hughes T.	Ashburton
King A.J.	Auckland	Knight J.	Katikati
Leach Dr H.M.	Dunedin	Lloyd K.A.	Diamond Harbour
Lunham M.J.	Dunedin	Lunn C.D.	Lower Hutt
Mackay M.	Palm. North	Marshall C.J.	Auckland
McDonald P.A.	Auckland	McLean R.	Auckland
McMillan T.D.	Otaki	Moffat J.J.	Westport
Molloy A.P.	Hamilton	Nicol J.L.	Cromwell
Playfair J.	Auckland	Rose A.R.	Hastings
Springett M.J.	Eltham	Steenstra D.	Hamilton
Stieller P.	Waitara	Tattersall J.P.	Kerikeri
Taylor L.	Te Puke	Tebey F.M.	Ohakune
Tollison S.J.	Wairoa	Tong M.	Wellington
Waters J.	Wellington	Watson G.M.	Wainuiomata
Widdowsom A.	Te Anau	Wilson A.M.	Hastings
Wyber A.	Port Chalmers		



# ROYAL NEW ZEALAND INSTITUTE of HORTICULTURE

*Conference and AGM at Bryant Hall - University of Waikato,  
Knighton Road, Hamilton.  
Friday May 15 to Monday May 18th*

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**PROGRAMME** (A detailed programme will be provided on Registration)

Theme of Conference

**HORTICULTURE — THE MERGING of TOWN and COUNTRY**

**FRIDAY 15th May**

- 10.00 am — National Executive Meeting Bryant Hall: Lounge
- 5.00 - 6.00 Registration — Bryant Hall: Buttery
- 6.00 - 7.00 Social Hour — Buttery
- 7.00 - 8.30 Dinner — Bryant Hall
- 8.30 - 10.00 Welcome, Addresses & Graduation Ceremony

**SATURDAY 16th May**

- 9.00 - 1.00 Annual General Meeting Room 11
- 1.00 - 2.00 Lunch
- 2.00 - 5.00 Informal
  - 1. Golf 9 - 18 holes
  - 2. Mystery Tour
  - 3. River Cruise
- 6.00 - 8.30 Institute Dinner
- 9.00 - 10.00 Banks Lecture, Room 11

**SUNDAY 17th May**

- 9.00 - 12.00 Workshops:
  - 1. Garden history
  - 2. Alpine & specialist plants
  - 3. Cut flowers and foliage production
  - 4. Amenity Horticulture
  - 5. Fruit and Vegetable Horticulture
  - 6. Other
- 12.00 - 1.00 Lunch — Bryant Hall
- 1.00 - 4.30 Field trips
- 4.30 - 5.30 Happy hour
- 6.00 - 7.00 Dinner

**MONDAY 18th May**

- 9.00 - 10.00 Concept of the Hamilton Gardens
- 10.30 - 12.30 Tour of Hamilton Gardens
- 12.30 — Lunch at Hamilton Gardens & Farewell

## BOOKING DETAILS

Accommodation is in single rooms in Bryant Hall. Meals, Meeting etc. are at Bryant Hall except where advised and all attending are required to pay registration fee whether staying in or out.

Final date for registering 12th April 1987.

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## CONFERENCE FEE

Includes incidental expenses, morning and afternoon teas, bus/beat on Saturday, workshops and tour on Sunday.	\$60
Welcome and Dinner, Friday 15th May Presentation of Diplomas and Certificates to graduates. A display of books, crafts etc. is arranged in the buttery.	\$15
Accommodation, Bed and Breakfast This is a charge payable on arrival to Bryant Hall. Please indicate on booking form days required.	\$34 (per night)
Institute Dinner, Saturday 16th May Casual meals as arranged on booking form.	\$25

Charges include GST.

Informal	1. Golf 9 - 18 holes	Costs included in fee
	2. Mystery Tour	
	3. River Cruise	

Banks Lecture. Dr Laurie Barber.

'An Historical perspective of Horticulture in the Waikato' Dr Barber is a well known Waikato Historian. His address will span the development of Horticulture in the Waikato from pre-European settlement through to the present.

Sunday 17th May Workshops or Area of Interest

1. Garden history
2. Cut flower & foliage production
3. Alpine and specialist plants
4. Amenity horticulture
5. Fruit and vegetable horticulture
6. Other — specify.

The arranging of workshops will depend on interest ie. number registering.

Tours will be arranged around workshops so please specify first and second choices in both workshop and tour.

Note: It is essential to fill buses.

Retain this portion and  
 record your booking details.  
 Send **BOOKING FORM** duly  
 completed with cheque (AGM  
 conference/ac) to:

Conference Secretary  
 F. Dorofaeff  
 Box 4185  
 HAMILTON

**BOOKING FORM**

Name .....  
 Block letters Mr/Mrs/Miss

Address .....  
 .....  
 .....

CONFERENCE FEE \$60  
 Friday 15th May  
 Lunch \$10  
 Dinner \$15  
 Accom. required   
 Please tick

CONFERENCE FEE \$60  
 Friday 15th May  
 Lunch \$10  
 Dinner \$15  
 Accom. required   
 Please tick

Saturday 16th May  
 Lunch \$10  
 Dinner \$25  
 Accom. required   
 Please tick  
 Informal  
 List preferences  
 1, 2, 3, etc.

Saturday 16th May  
 Lunch \$10  
 Dinner \$25  
 Accom. required   
 Please tick  
 Informal

Sunday 17th May  
 Area of interest  
 List preferences  
 1, 2, 3, etc.  
 Lunch \$10  
 Dinner \$14  
 Accom. required   
 Please tick

Sunday 17th May No charge  
 Area of interest  
 Informal   
  
  
 Lunch \$10  
 Dinner \$14  
 Accom. required   
 Please tick

Monday 18th May  
 Lunch \$6  
 Total sent \_\_\_\_\_  
 \_\_\_\_\_

Monday 18th May  
 Lunch \$6  
 Total enclosed \_\_\_\_\_  
 \_\_\_\_\_

Note: Cross out meals not required ie. Monday.



# DISTRICT COUNCIL SECRETARIES

## AUCKLAND

Mr B. Keene,  
48 Pokapu Street,  
Tititangi, AUCKLAND

## BAY OF PLENTY

Mr G.D. Mander,  
Moffat Road,  
R.D. 1.,  
TAURANGA

## CANTERBURY

Mr E.D. Moyle,  
6 Winslow Street,  
CHRISTCHURCH 5

## NORTH TARANAKI

Mrs L. Skipper,  
50 Omata Road,  
NEW PLYMOUTH

## OTAGO

Mr R.M. Scott,  
83 Hawthorne Ave.  
DUNEDIN

## POVERTY BAY

Poverty Bay Hort. Society,  
P.O. Box 1275,  
GISBORNE (Liaison Only)

## SOUTHLAND

Mr W.T. Wright,  
12 Kew Road,  
INVERCARGILL

## SOUTH TARANAKI

Miss E.A. Free,  
23 Egmont Street,  
HAWERA

## WAIKATO

Ms T. Thompson,  
56 Banbury Cres.,  
HAMILTON  
HAMILTON EAST

## WELLINGTON

Mr D. Clayton-Greene,  
P.O. Box 11-379,  
Manners St. WELLINGTON

## WHANGAREI

Mr K. Young, FRIH  
P.O. Box 1530  
WHANGAREI

RNZIH Notable & Historic Trees Committee — P.O. Box 11-379, WELLINGTON

RNZIH Regional Horticulture Sub-Committee — P.O. Box 11-379, WELLINGTON

RNZIH Garden History Group — P.O. Box 11-379, WELLINGTON

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

Annual Subscription rates: (Subscription year ends 31 Dec.)

Individual Members (less \$7.50 without Journal)	\$28.00 + GST \$2.80 = \$30.80
Small Non Commercial Societies	\$28.00 + GST \$2.80 = \$30.80
Sustaining Members	\$65.00 + GST \$6.50 = \$71.50
i) Corporate Bodies	\$110.00 + GST \$11.00 = \$121.00
ii) National Commercial Organisations	
Associate Member (on application)	Approx 65% of Individual Sub.
(over 65 years and being full member for 10 years)	

Subscriptions should be sent to: The Secretary, RNZIH, P.O. Box 12, Lincoln College, Canterbury.

Get in touch with your District Secretary and become involved with local RNZIH affairs.

