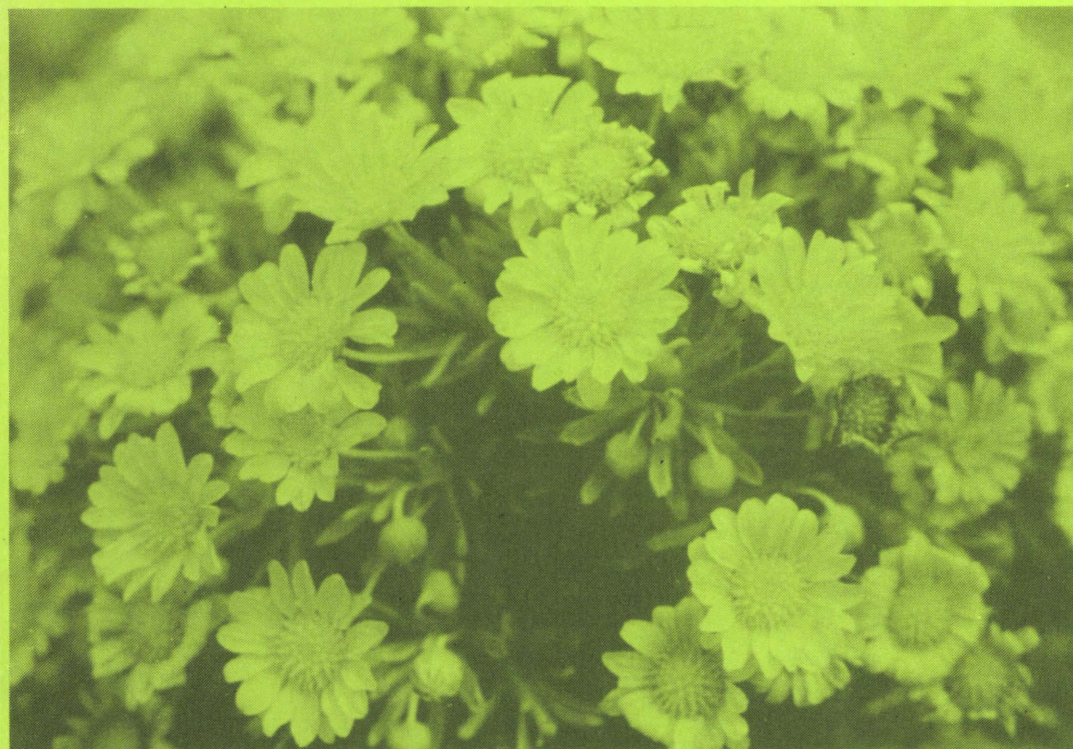


Horticulture

in New Zealand

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



30

Summer 1983-84



HORTICULTURE

IN NEW ZEALAND

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BULLETIN OF THE ROYAL N.Z. INSTITUTE OF HORTICULTURE
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Cover photo : *Euryops aucreus*

ROYAL NEW ZEALAND INSTITUTE OF HORTICULTURE (INC)

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EDITORIAL

First and foremost, many thanks to all those members who have sent in articles to be published. This is the first issue I have done where the majority of articles have come from you, the members. I am sure this will make the Bulletin much more interesting reading if it contains this type of article. If you cannot find your article in this issue, I assure you it will be published in the Autumn issue.

An equally important news item is that Merv. Spurway has unfortunately had to resign as student editor due to many other commitments. He has done such a fantastic job as editor of the student section since it first appeared in the Summer Bulletin 1981/82 that his contributions will certainly be missed. We hope to have a new student editor for the Autumn Bulletin.

Having recently returned from spending Christmas and New Year in Canada it has not left me much time to prepare this issue. I hope you ignore the small vacant areas on some pages as I ran very short of small filler news items. It was good to return to some summer weather even though my first week back was more like winter. In fact the Canterbury Plains were greener when I returned than when I left. A great year for plant growth!

I hope the first month of 1984 has gone well for you. Happy reading, and don't forget - there is plenty of room in my file for articles.

- David Shillito
Editor.

DISTRICT COUNCIL NEWS

CANTERBURY

August : Propagation Demonstration

The Curator of the Botanic Gardens Mr. Warwick Scadden and members of his staff gave a very informative talk on aspects of propagation. This demonstration was held in the propagating department of the Botanic Gardens. Various types of structures were discussed and then methods of sowing seed and handling seedlings were demonstrated.

Afterwards demonstrations of various types of cuttings and root and aerial layering were shown.

At the conclusion of this demonstration many questions were asked and a lot of interest was shown in the work of the Institute.

October : Field Trip to Ashburton

In the morning the group visited Millichamp's Nursery where Mr. John Millichamp conducted a tour of the nursery complex, which consists of open ground, propagating department and garden centre. The open ground area covers some 35 hectares which is kept under control by cultivation followed by an application of simazine.

Lilac *Syringia vulgaris* hybrids were being grown for flower export and we were fortunate in seeing some of these plants in flower. Fruit tree production covered a large area of which rooted cuttings of *Malus sylvestris* were being lined out to be budded with No. 793,106 and northern spy stock.

Grafting of walnuts *Juglans regina* was carried out by bench grafting using young virgin scion wood which was held at 21°C for 3 weeks after grafting in temperature controlled bins.

Machinery plays a large part in the efficient operation of this nursery and this was demonstrated by the large amount of labour saving devices. Of special interest was the potting machine which saves much labour in the potting up of plants.

In the afternoon the group received a conducted tour of the Ashburton Domain by the Superintendent of Reserves, Mr. Peter Thompson. As we walked around, Mr. Thompson told us of the history of the many plantings and how the various sports groups use the facilities.

November : Christmas Function

The Christmas function was well attended with the highlight of the evening being an illustrated address given by two landscape architects, Peter Rough and John Marsh. Slides showed many examples of how European and Eastern peoples had used local materials to form areas of beauty. These areas ranged from the stark beauty of cobbled steps to the grandeur of gardens of large estates.

Slides also illustrated landscape work which has been carried out both in local body and private gardens, by people who had not consulted a landscape architect. These examples were offset by work supervised by landscape architects and this showed, by the nature of their training, they had a better appreciation of the environment.

After the address a very entertaining and profitable plant auction was held with John Taylor acting as auctioneer.

OTAGO

The Otago District Council organised a number of activities and seminars in 1983 which were well received by members and the general public.

February : Visit to the University Grounds

On Wednesday 16, a pleasant mild evening, some 25 people attended an escorted tour of the University grounds. Everyone enjoyed the walkabout and many expressed surprise at the extent of the redevelopment, landscaping and tree planting that has been carried out during recent years. It was good to welcome Dr. Campbell from the Manawatu District Council.

April : Annual General Meeting

At the A.G.M. two new members, Mick Reece and Ewan Cadzow were welcomed onto the Committee while Pat Richan, past Chairman did not seek re-election. Following the formal business two excellent films, "The Kauri" and "Green Garden Country" revealed interesting aspects of New Zealand history as well as the great range of plants and gardens seen today. The display of horticultural books generated considerable interest.

July : Orchid Meeting

One of the years most successful events with almost 70 people attending - it was standing room only for the late comers. Dr. St. George spoke about native orchids while Geoff Patterson discussed the raising of Cymbidium orchids in Queenstown for the export trade. The two excellent speakers delighted an attentive audience with their enthusiasm and excellent colour slides and prints.

August : Conservation Week Planting

This took place at Cozy Dell in the Green Belt where a small but enthusiastic group planted native trees and shrubs. Thanks to the Parks and Recreation Department for trees, shrubs and preparatory work. Dunedin may be well endowed with magnificent trees but to ensure continuity it is important that the present generation plant trees now so that future generations will thank us for the efforts we made.

October : Propagation Seminar

These seminars are always popular and this was no exception. The four guest speakers covered a range of topics including bulbs, alpines, trees and shrubs as well as indoor plants. Thanks to Miss Katherine Abernethy, Mr. Ron Abernethy, Mr. Scott and Mr. Wayne Williams.

November : Horticultural Society Show

At the Spring Show the Otago District Council's display of labelled plants was well received by the general public especially the huge hybrid Rhododendron. It is hoped to have further informative and interesting displays at forthcoming shows.

November : Historic and Notable Trees

This was a popular outing with Mr. Neville Struthers, Manager of Parks in Dunedin and District Council Tree Officer providing information about trees recently included on the Historic and Notable Trees Register. The Chairman, Barbara Cave and Councillor Jolyon Manning attached the commemorative plaques to an Oak *Quercus robur* and Lime, *Tilia europea* in Glendinning Ave. Tree Surgeon Frank Buddingh outlined restoration and cabling work he had carried out on the 100 year old plus Royal Oak in the Botanic Gardens.

People

Many will be aware that Gavin Henderson has recently retired as Director of Parks and Recreation because of ill health. Apart from his responsibilities as Director of Parks for the past 16 years Gavin has been very active in the Institutes of Horticulture and Park and Recreation Administration, especially in the field of horticultural training. He has served as Chairman and Secretary of the Otago District Council, more recently as a committee member and has from time to time edited the newsletter.

At its conference in Queenstown the Institute of Parks and Recreation presented Gavin with his life membership and on this very moving occasion he was accorded a standing ovation. During the reading of the citation; John Taylor, in a special tribute referred to the love and steadfast support Gavin had received from his wife Dorothy and their family. Despite his considerable frustrations he certainly has retained his sense of humour which was much in evidence at Queenstown.

On behalf of the Otago District Council Gavin, we wish you well.

- Robert Scott
Hon. Secretary

AND NOW - SUPERVEG

(From 'Commercial Horticulture' April, 1983)

Botanists in both Europe and the U.S.A. are working on super-strains of vegetables and in some cases their work is currently undergoing field tests. Besides a potato the size of a football, disease free and big enough to feed a family of four, attempts are being made through genetic engineering to produce rice grains the size of tennis balls, different kinds of fruit on the same stem and crops that fertilise themselves. Scientists are also producing plants ultra-resistant to diseases and parasites.

EXPANDING HORTICULTURE BRINGS SOCIAL CHANGES

Extract of address by R.J. Ballinger, President R.N.Z.I.H. to Palmerston North Horticultural Society.

Recent Changes in Horticulture. Over recent years we have seen some outstanding changes in horticulture in New Zealand spear-headed by the multi-million dollar development of kiwifruit. This has been backed by greatly increased production of berry-fruits, cherries, nectarines, apricots, peaches, blueberries, asparagus and grapes as well as expansion in the nursery and flower sections of the industry.

Along with these developments there has been greatly increased numbers of horticultural students in our schools, colleges and Universities. Students taking the diploma and associated courses in horticulture with the Technical Correspondence Institute have trebled over recent years while cadets taking the Certificate in Horticultural Practice increase each year.

Horticultural literature for New Zealand conditions has increased markedly and it is almost certain that more books on the subject have been written in the last five years than was produced in the previous seventy five years. In the last two years we have seen a flood of trade magazines and journals.

Social Changes. These dramatic changes in horticulture which have already occurred are now bringing about important social changes which will have an impact upon the whole of the community. Some of these changes are already taking place but their effect will continue to grow over the coming years.

Students in the Community. Whereas the trend for most industries is for graduates to work in the larger cities, a considerable number of horticultural students are going to take up positions in the country towns. Working as advisory officers and technicians in government departments and local bodies, the rural bank, and in commercial operations there will be the impact not only of their skills, but also their involvement in social activities. Community groups including the arts, sport, church, educational and social service clubs will be strengthened by the inclusion of these young people.

There has already been a change of attitude in such communities towards horticulture. Whereas it was once looked upon as rather a peasant industry, the entry of many professional people plus these students with a more skilled training has brought a new standing to the vocation.

Gardening as a Recreation. There is no doubt that one of the biggest social questions that we will have to face up to in the near future is what people are going to do with their leisure time. Not only is there the prospect of a shorter working week, but already we have the proposal that people will be retiring at the age of 55. With more time becoming available for recreation I am sure that gardening or part time cropping lend themselves as an excellent prospect as a hobby. No other recreation could absorb so many people in occupying themselves in a creative and

satisfying pastime. Surveys have shown that gardening is already the most popular pastime for people of many age groups.

The recent building of a glasshouse attached to Coronation Hospital in Christchurch as therapy for the patients and the addition of conservatories on the many houses as part of every day living reflects two present trends in the change of life style. I believe that gardening and other forms of horticulture can contribute in no small way in meeting the needs of people in these changing times.

Training of Unemployed. Perhaps the greatest social problem, and certainly one causing much concern is the large number of unemployed in the community. Of particular concern are the young people who are unemployed and in fact have never had a job. Where do they fit into the horticultural scene?

At present through the Labour Department, many work skills training schemes have been set up working with local bodies or interested organisations. Some schemes operate under Trusts of local people who are interested in fostering training to help prepare young people for work on horticultural units. These schemes are being set at various levels of training, some give elementary job preparation while others are aimed at being self supporting by being financed from the income of what is produced. There is no doubt that we will see development of further projects in the future aimed at various levels to meet the varying needs of the day.

Where such schemes are being supported by the public it is important that there is understanding and support for them by the community. However because such schemes are new, there could be some misunderstanding of their purpose by some sections of the established industry. If these schemes are to succeed in helping the unemployed there will need to be some tolerance and understanding by every-one and the R.N.Z.I.H. with it's members spread throughout the country could help in achieving this.

Summary. Over recent years we have seen some dramatic changes in the horticultural industry in New Zealand with increased acreages of crops and many more people involved both in the field and in training in the educational institutions.

In the future we will see many social changes as a result of the expansion that has taken place in the horticultural industry. The Royal New Zealand Institute of Horticulture with it's members spread throughout the country is in a key position to help meet the needs of these social changes. The District Councils and Horticultural Societies in particular, could have greater roles to play at the local level in helping people to adjust to more leisure time by fostering garden programmes.

NEW ZEALAND'S NATIVE PLANTS

by

Alan Jolliffe

BOTANICAL NAME : *Clematis paniculata*

COMMON NAME : Bush Clematis

MAORI NAME : Pua - wananga

Spring in the New Zealand bush is heralded in by the appearance of our largest and most beautiful Clematis. The flowers emerge from the foliage of its hosts to create waterfalls of flowers on the tops of trees and shrubs especially on forest margins or regenerating bush.

"Festoons of starry white flowers looped from tree to tree, light up with delicate beauty the edges of the dark bush in the early spring". (Laing and Blackwell 1907).

This quotation aptly describes the bush clematis in full flower. However it also has other attractive features for those who wish to examine it and grow it.

Before flowering the swelling buds are covered in brown hairs which is most striking and easily seen. The plant is quite a vigorous climber but not covered with a lot of foliage. Its large tri-foli leathery glossy leaves and its branch do not smother its host but rather live in harmony with its host.

Male and female flowers are found on separate plants and are easily distinguished. The "petals" are actually sepals which have developed to perform the function of petals. Flower size is said to vary greatly and reports of male flowers up to 150mm across have been made. The potential to select large flowered forms for propagation is possible.

The white male flowers when open lie flat and are usually larger and showier than female flowers. The anthers are a mauve colour and sometimes a faint pink colouring can be found in the petals.

The female flowers are light green and hooded as the sepals protect the seed producing parts. This makes the flowers look even smaller than they are. After flowering long feathery, silky plumes develop from the pistils which act as a wing for wind disposal of the attached seeds. The masses of these plumes on the vines are as attractive as the flowers.

Clematis paniculata, the bush clematis, is the most easily recognised native climber. It is easily grown, does not smother its climbing post and produces masses of flowers. The Maori recognised these qualities and named it Pua - wananga, the sacred or sanctified flower.

AN EVOLUTIONARY REPLY TO MR. W.T. WRIGHT

by W.R. Sykes

Botany Division, DSIR, Christchurch

I read W.T. Wright's essay "The taxing of a non-taxonomist" Bulletin 29 Spring 1983, with increasing dismay and amazement and had to remind myself that it was 1984 and not 1884 or, even more apt, 1774. If his intention was to create such feelings he certainly succeeded in this taxonomist's case. In replying, I do not intend to discuss the evidence for evolution in detail but will concentrate upon his completely erroneous and misleading attempt to link it with plant name changes. Suffice it to say that in my studies of the flora of various islands in Polynesia I cannot by any reasoning or conceivable stretch of the imagination account for the endemic plants that grow there other than by invoking an evolutionary process. This is because of what is revealed by studying their closest relatives on other islands. Thus, the origin of an endemic species on a small island (the situation is often less complicated than on a large land mass) can often be demonstrated in an evolutionary context. This results from a consideration of the geological history, climate, and other environmental factors, as well as morphological differences, since these can show that evolution has occurred and why it did so. Arguments about evolution amongst taxonomists of my acquaintance are only concerned with its details and not with the fact of whether or not evolution occurs. As for the missing links that seem to worry W.T. Wright and other creationists, I should find it most surprising if there weren't any, the reason being that they are implicit to evolutionary theory and therefore only to be expected.

I can assure W.T. Wright that I also dislike name changes and have been around long enough to have had to cope with a great many of them because my fields of study are very wide. But at least half of these changes are for nomenclatural reasons and thus are entirely a result of our artificial system for naming. The Code of Nomenclature attempts to lay down as precisely as possible the rules for naming plants in order to avoid confusion. First and foremost are those dealing with priority, whereby Linnaeus' "Species Plantarum" of 1753 is taken as a starting point for plant names. Hence, so long as a name has been validly published and is not earlier than this date, it must be considered as a candidate for the particular unit (taxon) for which it was coined for a representative specimen. Sometimes research into the way a name was published reveals that it has never conformed to the Code. These rules have resulted in many names having to be changed, often because of an earlier name having been discovered, sometimes in an obscure publication. In 1981 there was a slight relaxation of these strict rules in order to conserve well-known names of species which are threatened by such discoveries. For me these are the most annoying type of name changes and I hope that the number of conserved species will grow for I also sympathise with people's feelings of dismay at being told that a well-known name has to be abandoned.

Another reason for name changes is because of misidentification. This had happened in a number of instances in New Zealand for when taxonomists have become aware of the rightful owner of the name the usurper has to change its name no matter how well-known it is. Surely, there is no way other than to accept such changes?

I'll admit that a large number of plant names have changed because of taxonomic reasons, but these reasons are not conditional upon the holding of evolutionary theories by the person making the change. Therefore, not surprisingly, there were taxonomic name changes being made before Darwin wrote "The Origin of Species" because these are simply occasioned by putting similar plants together through studying the natural affinities of the units (taxa) in greater depth than previously. Such changes have occurred irrespective of whether or not taxonomists have followed an artificial or natural (Phylogenetic) system of classification. I can only concur that providing the observations resulting in such changes have been accurately and meticulously made, the results should be accepted as constituting progress in the better understanding of likenesses and differences between taxa. However, one is not obliged to accept such name changes even though it means ignoring the weight of informed opinion.

So, finally I say to W.T. Wright that one cannot use plant names changes as a stick to try and beat evolutionists with.

SECOND NEW ZEALAND
INTERNATIONAL ORCHID CONFERENCE
9 - 13 OCTOBER 1985

The Orchid Council of New Zealand will be hosting the Second New Zealand International Orchid Conference in Wellington in 1985. Interest in orchids is growing rapidly in this country, and was greatly boosted by the first International Conference in Auckland in 1980.

The Second Conference will include the biggest display of orchids ever seen in New Zealand and will be a major event on the horticultural calendar.

Any member who would like to join the mailing list can do so by writing to the Secretary at P.O. Box 5133, Wellington.

NEW ZEALAND'S FIRST HORTICULTURIST

by

K.J. Nobbs, Te Kawhata

It has unfortunately passed unnoticed by the Royal N.Z. Institute of Horticulture the centenary of the death of James Shepherd on October 1st 1882. He was the first horticulturist to be commissioned to work in New Zealand. James Shepherd was a protégé of Samuel Marsden, his father being a free settler at Kissing Point between Sydney and Parramatta in New South Wales. Samuel Marsden coveted this young man for his New Zealand venture and his first intention was that James should be trained in navigation and eventually become Captain of the vessel, the 110 ton Brig 'Active' which he had purchased to facilitate contact with missionaries in the South Seas and New Zealand.

There is a family tradition that James Shepherd was present when Marsden preached at Oihi, Rangihoua Bay on Christmas Day 1814 and was aboard the 'Southern Cross' which was in the Bay of Islands at the same time. With a farming background and skilled in grafting and gardening he made visits in the 'Active' and gave advice to some Maori Chiefs in the Bay of Islands on the growing of crops between 1815 and 1817.

Samuel Marsden wrote to Rev. Josiah Pratt, Secretary of the Church Missionary Society in London in 1820 that "a very nice young man, whom I have long wished to employ in the Mission, truly pious, and his heart engaged in the work is going over with me. His name is James Shepherd a native of the colony. His father is a very pious man, I sent him twice to see the natives and he has been desirous of devoting himself to the work of the Mission. He understands gardening, grafting trees etc., a man of this mind will be of infinite service.

After acceptance by the Church Missionary Society the following directive was sent to James Shepherd as recorded in the Proceedings of the Church Missionary Society Vol. IX pp 346-348.

"Your practical skill in gardening and agriculture will enable you to introduce into cultivation by the New Zealanders, wheat, barley, maize and other grains, vines, fruit-trees and useful vegetables. You will instruct them in kibbling of wheat by which two fifths of the seed required in the broadcast may suffice. You will direct a steady attention to the plant common to the country termed by botanists *Phormium tenax*. Mr. Marsden's late travels in New Zealand have brought to light the existence of seven varieties of that plant and further research will no doubt add to the number. One of them distinguished by the convenient peculiarity of its boon (useless vegetable matter) being easily separable from the fibres required for botanical purposes. The others most probably possess distinctive properties which may render them fit objects for attention as while one variety may be superior for cordage, another may answer better for brien and a third for the use of the paper maker. You should therefore have an acre of suitable land

prepared and plant it in suitable roots of the different varieties. Specimens of fibre, of a milky lustre and softness are brought from the southward. You should endeavour to ascertain the place of its growth and obtain one or more roots from which to propagate it. The Society being desirous of a quantity of the raw material being sent home you may encourage the natives to bring it for sale and draw on the storekeeper for articles to barter for it... For many reasons the Committee recommend you moving from place to place, and report back all information recording the geography, localities and physical and moral circumstances of the country."

It is amusing to read from a gathering of evangelical divines all this technical detail about New Zealand flax. No doubt they drew heavily on Samuel Marsden and perhaps Sir Joseph Banks for their data!

They had great hopes that James Shepherd would be an invaluable man in the development of the flax industry. James Shepherd had no DSIR office to attend and in the stresses and strains of early pioneering, survival was the first priority. Before his marriage he learnt to cut out and make his own trousers, a service he also rendered for a local Maori Chief!

James Shepherd travelled in 1820 with Samuel Marsden and two other missionaries in a whale boat from the Bay of Islands exploring to the south. They were the first white men to discover and explore the Manukau Harbour.

They were nearly wrecked between Rangitoto and Motutapu and walked from Panmure to Onehunga. Returning north they walked overland exploring the Kaipara Harbour then to the Hokianga and so Shepherd made his way back to Keri Keri while Marsden joined 'H.M.S. Dromedary' at Whangaroa.

James Shepherd had the reputation of being a fast runner and while he itinerated widely between the Bay of Islands and Whangaroa he was one of the first to use a horse widely - indeed his diary reveals that his horticulture lapsed in favour of rounding up straying cattle! For all his lack of much formal education he was a distinguished linguist and like Richard Davis the Agriculturist at Waimate North, with whom he had much in common, they both contributed to the translation of the Maori bible, and were diligent evangelists. Shepherd's contribution was in the translation of Malachi, Jonah, the book of Ruth and the revision of St. Matthew's gospel.

Shepherd moved to the Whangaroa district and in the next ten years saw the planting of churches there. He became independent of the Church Missionary Society in 1848 and continued as a farmer until his death in 1882. It is recorded that in 1850 he was selling apples along with sheep and cattle to several purchasers in the Bay of Islands including Mr. Busby.

It is fitting that a new sub-tropical fruit, the Keribery, *Rubus rugosus* var. *thwaitzii* should have been located on land once part of James Shepherd's property south of Whangaroa harbour. A Mr. L.R. Hansen who purchased the land and found this unusual winter fruiting blackberry there, has developed and demonstrated the value of this plant. Roy Hansen is a

direct descendant of the Captain of the 'Active' on which James Shepherd travelled and was for short periods a crew member. How did James Shepherd come by this tropical bramble-berry? Did he bring it over from his parent's home in New South Wales or did he secure it direct from India or Indonesia?

The only references I could find in the D.S.I.R. library in Mt. Albert to this little known plant were to two Bombay journals in the middle of the 19th century. Did some East India man bring plants to Australia or New Zealand about that time? One would have expected that retired civil servants, British or Dutch may have brought the plant to Keri Keri where several settled after the last world war. Roy Hansen found no plants near Keri Keri but odd plants here and there near the Whangaroa Harbour. I found an isolated plant in a valley south of Kaitaia while others had reached as far as Broadwood. They were few and far between, probably spread by birds but into hedgerows which suggests that the plant had been around for a long time. James Shepherd was probably the one to introduce it but there seems to be no known documentation relating to its introduction.

James and Harriet Shepherd had a large family, nearly all sons. Their numerous descendants had a reunion at Whangaroa during Easter of 1983.

I am indebted to Marjorie Shepherd of Kaeo who compiled "The Shepherd Flock", the story of James and Harriet Shepherd worthy pioneers in the very best Christian tradition.

A BRIEF HISTORY OF THE UNIVERSITY GARDENS

by
John Adam, Assistant Horticultural Superintendent,
University of Auckland

The first horticultural activity of the European settlers recorded on the University site was the presence of two gardeners that Eliza Hobson noted in January 1841, in a letter from Government House, Bay of Islands.

"...we have had two french gardeners employed in making a flower garden for me and Mr. Mathew the Surveyor General is laying out the grounds of the Domain."

The local Maori knew of the fertile volcanic soils, for when the site was chosen plantations of potatoes were growing on the site of Government House and the Grounds. These plants were purchased from the Maori.

With the death of Governor Hobson soon Governor Fitzroy arrived in late 1843 with Colonial Secretary to be Dr. Andrew Sinclair and Major General O'Brien, father-in-law of the Governor. The Auckland Times of January 1844 records,

"that under his patronage (Major General O'Brien) the enclosed land around Government House is to be forthwith converted into a garden, this is an indication that horticulture will be patronised now...."

The New Zealand Gazette of April 1844 records "Plants --- Seeds --- or Cuttings may be obtained gratis from the Government Gardiner (sic.)"

Excluding probably the two french gardeners by 1844 three gardeners had been employed at Government House. First came Mr. Alexander Dalziel for a two month period in 1841, followed by Mr. Thomas Cleghorn from mid 1841 to the end of 1843, and Mr. John Lynch (senior) from mid 1841. The first two men were 'Superintendent of Domain' and the latter titled 'Government Gardener'.

The Colonial Secretary's Letter Books in the National Archives, Wellington, contain many records of the activities of these three men. Beginning with the clearing of the site by contractors of the fern and bush and describing when and what plants were being grown by the Gardeners for the Governor and early settlers.

The gardens around Government House remained after the first Government House burnt down in 1848 while Captain George Grey was Governor. Because of the damage being done to the plants and walks in the grounds, access was by ticket only.

The University Gardens were first sited around the old Parliamentary Building that stood before Symond Street extended to Beach Road around 1910. Two Pohutukawas remain from the garden. The next planting occurred around the old Arts Building in the mid 1920's by Associate Professor Lancaster.

I would appreciate any new information on the history of the University Gardens especially descriptions of visits to the gardens and details of the gardeners employed during the 1800's and early 1900's. Photos of the gardens would also be of great value. Please write to John Adam, Assistant Horticultural Superintendent, Grounds Department, University of Auckland, Private Bag, Auckland, or phone 737 999, Ext. 7628, Auckland.

WELCOME: to the following new members

Aird Mrs. J.	New Plymouth	Allen F.C.	Wellington
Balcombe Mrs.S.K.	Auckland	Barnett Ms.N.R.	Kaikohe
Beattie Mrs. M.	Auckland	Brewster Miss L.I.	Auckland
Cassidy Miss M.E.	Auckland	Cuff Miss A.J.	Christchurch
Cunningham Miss L.K.	Auckland	Dean Mrs. S.S.	Auckland
French M.R.	Blenheim	Grennell D.A.J.	Wellington
Grey B.M.	Auckland	Harvey Mr.&Mrs.K.A.	New Plymouth
Hodder Miss V.A.	Rotorua	Jennings Mr.&Mrs.GW	New Plymouth
Jost Ms. B.	New Plymouth	Lord Miss P.A.	Te Awamutu
Maclachlan Ms.K.M.	Christchurch	Manoah Ms. J.E.	Auckland
Neal Ms. A.J.	Auckland	Newman G.	Gisborne
Norfolk D.A.	Auckland	O'Connor K.A.	Christchurch
O'Leary Ms.T.J.	Wellington	Oxenham Miss R.M.	Auckland
Palmer D.G.	Auckland	Partsch Mrs. E.	Wellington
Powley D.A.	Auckland	Rossiter G.G.	Cambridge
Schmidt J.M.	Invercargill	Simmonds A.R.	Wellington
Trudgeon N.	Upper Hutt	Waitomo District Council	
Waldron A.R.	Auckland	Ward D.C.	Hamilton
Williams Miss L.J.	Christchurch	Wilson I.W.	Auckland
Wright Mr.& Mrs.RA	New Plymouth		

STUDENT SECTION



THE I.P.P.S. IN NEW ZEALAND

by

Mike Oates

After the appearance of my article in the Winter edition of the Bulletin I was hopeful that interest would have been aroused on the subject of practical skills and the N.D.H. student. Well I'm still waiting for any comments that any of you may have on the subject. In fact, up until this moment in time I've heard nothing!! Can I assume that you're all quite happy with the practical skills training you're receiving? I think not, and so in this article I want to expand on one area of practical skills - that of plant propagation, and one way experience, tuition and knowledge can be gained.

Regardless of the type of horticulture with which you are involved, a knowledge of plant propagation is useful if not essential. Quite often though, this knowledge will be limited to the work that is carried out on your nursery or orchard. For instance, on an orchard you may learn how to graft new apple cultivars onto mature trees, while on a market garden you may learn how to produce plants from seed. For many of you, however, I'm sure that your interest in propagation is stimulated by these small beginnings and that you want to learn more about the many techniques and methods available. One method of learning is to "seek and share" knowledge with other individuals of like interests i.e. to join an organisation and to be an active member with that organisation.

The I.P.P.S. (what on earth does that mean, I hear you all cry) or International Plant Propagators Society is a professional horticultural organisation whose motto is "seek and share". The I.P.P.S. was established in the U.S.A. in 1951 and has steadily grown until today when there are 6 regions: Southern America, Western America, Eastern America, Great Britain and Northern Ireland, Australia and the New Zealand region. The New Zealand region has about 150 members and was formed in 1972. The purpose of the I.P.P.S. is clearly set out in its objectives:

'To secure recognition for the plant propagator as a craftsman, to provide for the dissemination of knowledge through the proper channels and to provide helpful guidance and assistance to plant propagators.'

How does this work in practice? How will it be of use to yourself, in developing your knowledge and experience of plant propagation?

Membership is open to anyone, students, growers, scientists, lecturers, who have an interest in, and are actively involved in propagation. This may be in a commercial grower, teaching or research sense, it doesn't matter. In New Zealand, as in other regions, it brings all of these people together, for the mutual benefit of all. This happens once a year at the Annual

Conference and also at field days that are organised throughout the year in different areas. The friendships and contacts gained at these meetings are of great benefit in future years, when information and advice are needed.

To illustrate the activities of a typical year :

In 1983, two field days were held, one in Whangarei and one in Hamilton. The field day at Hamilton included visits to an indoor plant nursery, a forest tree nursery, an ornamental grafted tree nursery and an analytical laboratory for testing soil and plant tissue samples.

The 1983 Annual Conference was held in Wellington, and included talks on various aspects of propagation, practical workshops and a field trip.

Examples of papers presented were :

The latest developments in rootstocks from hardwood cuttings - Murray Richards (Massey University).

Micro propagation of *Pinus radiata* - Jenny Aitken-Christies (F.R.I. Rotorua).

A glimpse at English Research and Experimental Station Current Work - Ruth Hills, (Hort. tutor, Waikato).

Plant Selection and Development of Australian species - Ben Swane (Swane's Nursery N.S.W. Australia).

The half-day practical workshop was a great chance for me to brush up on my budding and grafting techniques. Chip budding and side veneer and cleft grafting were taught under expert supervision. A great chance either to learn from scratch or compare your techniques with other growers. There was also a tissue culture workshop for those interested in this expanding sector of propagation. Again expert tuition.

A lot of the benefit from a Conference such as this results from getting together with other growers and discussing problems and methods. As a result of my weekend I picked up the following tips, to name a few.

1. The easiest way to clean *Pittosporum* seed is to mix it thoroughly with swarfega, the proprietary hand cleaner. Then rinse the seeds thoroughly in cold water.
2. Hardwood cuttings of *Cupressocyparissus leylandii* can be successfully rooted without the woody heel usually left on the base. This is provided the greenwood is fully mature and hardened off.
3. Massey University is experimenting with rooting deciduous hardwood cuttings on bottom heat in cool stores (less 5°C) This prevents shoot growth before root initiation.

I.P.P.S. Membership

As a member of the I.P.P.S. you receive regular national newsletters on events in the New Zealand region as well as the official international publication of the I.P.P.S. 'The Plant Propagator', four times a year. The most beneficial information however, comes in the form of an annual book, comprising the proceedings of all six regions Conference papers. The 1982 book had nearly 700 pages of articles on plant propagation and related topics.

In concluding then, any of you who are still interested in the Society, why not attend a field day or the next Conference in Nelson? (November 1984). You can attend one Conference without becoming a member and also go along to field days. If you are interested in becoming a member, write to : M. Geenty, Secretary, I.P.P.S., N.Z. Region, P.O. Box 4250, Hamilton East. He'll supply you with any information you may require.

One more plea. I'd be much happier if I had some response from you all out there. What do you think? Have you any ideas with regard to practical skills development. My address is in the back cover of the Bulletin.

N.B. The Society is a professional body. It is NOT geared for the home gardener enthusiast. If horticulture is your business or career and its emphasis is in the avenue of plant propagation - the I.P.P.S. could be for you.

WRITE FOR CASH COMPETITION

The following article was awarded second place in our recent competition 'Write for Cash'. It was a great disappointment to receive so few entries when there are so many N.D.H. students members of the Institute. If we run this competition again this year I hope it will receive much greater support.

Editor

A STUDENT'S THOUGHTS FOR THE FUTURE

IN N.Z. HORTICULTURE

by

C.M. Wilton

Everybody's eye is caught by the words 'Win Some Cash' and hope to be the lucky one, but most of us face reality and earn it the hard way. The really lucky ones are those who acquire it while doing something they enjoy. If our work becomes a well paid full time hobby how much better we do it and with what enthusiasm. With fewer job opportunities in industry and less still in the farming sector, so many school leavers are looking towards their future in New Zealand's new and promising horticultural industry.

As far as it is possible for one in the industry to observe with neutrality, some facts are emerging from this explosion of awareness that 'people need plants'. The horticultural ventures that smart business persons and wisened up land owning "Fred Dags" are pouring money into, are creating plenty of job opportunities even beside the actual horticultural workers themselves. Side lines of special equipment from twists to gloves to poles to million dollar packing, spraying, irrigation machinery, glasshouses for every purpose, heating systems, even export advertising, are all horticultural dependent.

So like every industry this monolithic structure all rides on the back of the lowest paid factory workers, the field hands, the nursery apprentice, the glasshouse cadet. The great rush to acquire those gold trimmed squares of cardboard stating this or that degree of qualification has started. Having recently made acquaintance with one graduate fresh out of Massey and found him chaffing at the bit at having to work with me at such lowly tasks as potting up and shifting plants, I found him very voluble on the subject. One or two positions had come up in the past six months for vacancies like a company wanting a fertiliser advisory officer or a high school wanting a horticultural teacher, but he said (squashing a defenceless little *adiantum* into its pot with more force than warranted) he has spent five years of his life unpaid, studying. He is *not* going to start off at that level, he would rather bide his time doing menial work (compliments, compliments) and wait for a *decent* job worthy of him. Joking aside, I can understand his frustration and reasoning and sympathise.

There are not many openings now and from here on we are going to churn out a lot of these keen young qualified horticulturists. True, more and more job opportunities are being created, but let's hope that amongst these young people are those with the foresight and daring, that ingenuity that Kiwis are famous for, the get up and go to create their own.

The possibilities are limitless and the field literally wide open to the enterprising and those with the 'be in first' attitude. It is exciting watching the growth of concepts like tissue culture, which a couple of years ago most of us would have said "what's

that"? Tissue culture in New Zealand could be just the tip of a plant or figuratively the tip of an iceberg. Whereas propagation by cuttings has rapidly taken over from the old slower methods of raising plants from seeds and layering, by the advent of improved and new cultural practices, new materials and aids like rooting hormones, mist propagation systems and heated beds, so too might tissue culture provide a whole new outlook on mass production of healthy plants. A lot of research still has to be done here but definitely food for thought to those looking for interesting and rewarding work.

Another untapped field here in New Zealand, but one which is growing in impetus in the States and in Europe, is research into biological control. Not just on a scientific curiosity level any longer, but as a practical economic viability.

The constant problem of rapid build up of resistant strain of pathogens to chemical sprays and the research needed to produce and extensively test new chemical formulations is staggering. Add to this the actual cost of manufacture and the economics of a spraying programme using the maximum return for a maximum crop yield may often show a bare margin of profit. If the crop price falls, perhaps through over production, then the grower comes off the worse for all his efforts. The aim of biological control is not eradication but a slightly fluctuating natural balance between predator/prey. In other words, while the organisms battle it out, the plants get on with the growing, a pleasing thought to our increasingly health conscious consumers.

Commercial laboratories set up to supply the horticultural industry with natural predators a Jules Verne type fiction? 'Ten thousand red spotted ladybirds for your rose nursery this spring? Of course madam'. Or perhaps 'a special predator mite for your glasshouse mite problem? Right away sir'.

Already underway on a commercial basis as a result of some excellent research and positive field trials is an exciting future in micorrhizas. We have introduced a huge range of plants into a country of a very unique vegetation, with never a thought till now to the delicate balance of symbiotic relationships that have formed in the natural habitat over a long time. Here again, mankind has found it better to give nature a helping hand than to fight her. Horticulturists are only slowly becoming aware of its possibilities as there is no earthshattering over-night result only a gradual build up and a correspondingly increased plant growth response and a hard to measure more efficient use of soil nutrients. Mycorrhizal inoculation in various forms will be available for a wide range of plants from seedlings and cuttings in the nursery to crops covering many acres and even forestry will benefit. Still in its infant stages and taking tentative steps forward, but it is predicted that it will become a common horticultural practice.

The latest fad is for importing exotic fruit plants and trying them here and perhaps we will come up with another winner like the kiwi fruit. So too should we try ideas and concepts strange to us but practiced successfully overseas. The world has sat back in amazement at what the Japanese have achieved in industry and in intensive farming, fish farming and horticulture. We all know of their almost reverence for quality food and their

fanatical desire for perfection in anything they attempt. A patchwork picture of endless acres of tunnel houses for melon production could give faith to the new heavy duty pliable plastic type tunnel designs we see demonstrated at A and P and horticultural shows around the country. Perhaps this more versatile artificial environment might be a cheaper alternative to the expensive traditional glasshouse.

Yes, great changes are definitely in the making. A couple of years ago the average high school boy would not be seen *dead* holding a flower, but today is happily working in an orchid glasshouse. Similarly, nobody blinks twice when they see girls out planting trees as forestry workers or driving a bulldozer, landscaping for the parks and reserves. I hope I have provided some inspiration for those like my 'young friend in a hurry' and shown that there are many facets to the horticultural industry and many avenues still to explore and while they journey on their chosen specialists career the rest of us less ambitious plodders can benefit as we tag along doing the donkey work.

OBSERVATIONS OF A RETIRED GARDENER

by

H. Blumhardt, N.D.H. N.Z.

Having spent my entire working life engaged in horticulture, I have witnessed many changes, for better or for worse, and feel that some of these observations may be of interest and perhaps may even be an inspiration to students of today.

During the 1930's a boy was not encouraged to enter into any form of horticulture as a means of earning a living, it wasn't even considered as a trade in those days and the wages were so low that beginners didn't receive sufficient to pay a normal board, and without some help from parents, had insufficient funds for clothing and certainly none for entertainment. What a difference today!

A young man in those good old days had to really desire to become a gardener and consequently learnt what he could where-ever possible. No organised lectures, horticultural classes, or assignments to assist study, except if one was fortunate enough to be employed in some major city parks department. Tradesmen gardeners were very reticent to pass on any of their knowledge for fear that the younger ones would beat them for their position. On one occasion on approaching journeymen potting Cyclamen they immediately stopped, and when asked to be shown how it was done was immediately told to get on with the job which had been allocated to me instead of wasting time trying to talk to them.

A friend of mine once told me how, while working as an apprentice at one of New Zealand's leading nurseries, had to climb the fence at night and dig up root grafts his foreman had done during the day, to see how it was done. Thank goodness it is not like that today. Imagine having to knock out newly potted plants or dig up grafts at night to learn the secrets of the trade, but gradually by fair means or foul we learnt. As for equality of the sexes, girls were not even thought of as suitable in such a calling, they were only suited to dressmaking, cooking, homemaking and such like callings.

Fortunately my first permanent position was as sole assistant to an English gardener with a wide knowledge and experience who realised my interest and made every endeavour to teach me what he could and was also responsible for ensuring that I enrolled as a student with the R.N.Z.I.H. On the occasion of my appointment he told my parents, "Yes I can make a gardener of him, but he will never have much money". How right he was. I wonder what his thoughts would be today. Perhaps not all young gardeners were as fortunate as me and I'm sure there are very few today who can claim as much personal tuition on such a wide range of topics. Unfortunately for horticulture today, it has become very specialised and with greater emphasis on profitability with the result most students have a very narrow experience and consequent knowledge, even some of the most simple garden operations are a complete mystery for some, for example one employed in the best of nurseries or garden centres may never have heard of double digging or trenching, much less have the ability to undertake the operation. Even to dig an area with a spade in the proper manner would be an unheard of request for some as most would expect such a task to be accomplished with a rotary hoe. Without a doubt, all the theory in the world cannot be expected to produce well trained people capable of effectively putting such operations into practice, much less being able or qualified to impart knowledge to others, as nothing can compensate for the experience gained from the repeated performance of an operation. Some students will always be more fortunate than others as to how far their employer will go towards assisting staff to widen their knowledge, particularly in aspects not immediately related to their particular field. e.g. How many students employed in pure nursery work are ever shown or have the opportunity to learn the best methods of preparation and laying of good quality lawns, or the practical experience of pruning of the various types of fruit trees, or for that matter mature ornamentals? After all only the principles of these operations can be learnt from text books. It is a pity that the large private gardens where all these operations were common practice, including the very important aspect of keeping the household constantly supplied with a range of fresh vegetables, have almost disappeared and these most valuable training grounds for general horticultural knowledge have been lost.

As people become more proficient in their field, if they are genuinely interested in their calling, they will begin to realise how little they know of other aspects, and the older one gets, the more one realises how much more there is to learn. I am quite sure that one attribute an interested gardener

develops is a keen power of observation, which is an essential of his/her calling; one develops the ability at a glance to assess the cause of the debility of a plant in most cases, be it cultural, such as dehydration or starvation, insect damage and by what, fungoid infestation or whatever, and of course early observation of the unusual.

Having pointed out the shortcomings of the present training grounds, on the other side of the coin is the undeniable aspect that highly experienced specialists are being produced, their tasks made so much simpler and faster with modern methods, mechanisation and facilities, thus as far as their employers are concerned, more productive and consequently more valuable financially. Therefore the trained horticulturist of today can expect a much higher remuneration than the lowly gardener of earlier days.

Another glaring example of the changes which have taken place is the increased number of people interested in growing plants, whether in the garden or supporting the very lucrative house plant craze. The reason of course is that the average person or family is more affluent today. This increased interest has had the very desirable effect of encouraging the introduction and production of a much wider range of plants than was previously available. The result being that today's gardener needs to know this wider range of plants, their habit, general cultural requirements and best method of propagation. It is hard to say which came first, but a result of, or perhaps the cause of, this increased interest in plants is the birth of the so-called garden centres, which in effect are little better than plant supermarkets where the staff could, in some cases, be better described as cashiers on the checkout, rather than plants people, and have very little knowledge of the wares they are selling. This results in many young enthusiastic customers not being given the best advice and consequently end up disappointed with their purchases.

Before the advent of these supermarkets, plants were purchased direct from the nurseryman who was qualified to give the best advice on plant selection and subsequent cultural requirements. The quality of plants in these garden centres very often is a good indication of the knowledge of the manager and staff, e.g. the quality and condition of some punnets of annuals or vegetable plants in particular suggest that some, through lack of attention, would be better dispatched to the rubbish bin before anybody sees them. As a general rule box grown plants, while being faced with root disturbance, are of far better quality than those grown in plastic punnets.

Except in the specialist nurseries, soil mixes are bought in bulk, sometimes of questionable quality, from soil suppliers, thus a large number of would-be gardeners never have the experience of making a soil mix nor have they the knowledge of the best ingredients to meet the requirements of the plants to be grown. While the introduction of the so-called soil mixes has simplified and standardised the end product, experience has shown that some variation for some plants is in fact desirable. Shrubs and trees destined for planting in sometimes very unsuitable or difficult soil conditions, have a greater chance of survival if they had a percentage of loam in their potting compost, thus producing a medium a

little nearer in physical structure to that in which they are expected to grow. Admittedly good loam at a reasonable price has become a rare commodity in some districts, nevertheless the advantage of its use would more than justify the expense in some cases.

The field of propagation has seen dramatic changes over the years, first with the introduction of rooting hormones for cuttings, soil heating electric cables, mist propagation, automatic temperature and ventilation controls, grafting machines and so on. How well I remember when, on one occasion when making Chrysanthemum cuttings, the remark made by my boss "What are you using rooting hormones for? A real gardener doesn't need those things." I wonder what he would think of tissue culture today.

Undoubtedly there are many things which I have not said, but one aspect which I feel I must mention before concluding is in relation to the N.D.H. This is surely the hallmark of a competent horticulturist, but always bear in mind that it is perhaps only the beginning of learning. Don't be hoodwinked into believing that the University Diplomas in Horticulture are of equal status or value! Sure they are a good starting point for those who wish a good grounding in theory, but fall short of the all important practical experience as was made very clear to me on one occasion when one such University graduate assigned to me did not even know how to use a pair of edging shears.

In conclusion may I say to all young would-be horticulturists: Good luck in your chosen profession. It is indeed a profession today. By all means make the most of all the advancements and aids available today, but at the same time endeavour to learn the fundamentals of your calling and build on these practical skills that cannot be substituted for all the modern technology.

What use is the computer if it is not programmed correctly?

PRUNING RHODODENDRONS

by

Brent McKenzie

The reaction from a lot of people to this title will be "but rhododendrons do not need pruning". Often they do for a number of reasons. Plants may have become leggy due to low light levels and flower production is usually reduced in conjunction with this. Pruning can also be necessary where a plant has grown too large for its position or if an old plant is in need of rejuvenation.

To establish where pruning cuts should be made, it is necessary to look at the growth of the plant. Leaves are arranged in whorls around the stem indicating successive years growth. After several years foliage will drop leaving a bare lower stem. Cuts should be made just above the lower rosette of leaves. This will force the dormant buds in the leaf axils into growth.

Difficulties arise when cutting into older wood where the foliage has dropped; care must be taken to distinguish between leaf scars and dormant growth buds. Careful examination will reveal leaf buds, and cuts can be made immediately above these.

Where a plant has become very drawn, it may be necessary to prune back over a period of several seasons, so as to allow dormant buds to break lower down the branches. Some floral display may be maintained also.

Pruning should take place after flowering. This is when plants will put up their first flush of growth for the season. Dormant growth buds will begin maturing after pruning and break into growth. Naturally the flowering period of rhododendrons extends over several months so pruning time for different species and cultivars varies.

Some rhododendrons will not respond to pruning. Plants with smooth bark such as *R. thomsonii* and *R. barbatum* do not respond. Care must be taken with cultivars having these species as parents. If new sprouts are being produced from old wood, then this can indicate that pruning may be successful. Many references are available for checking parentage of cultivars.

Further reading ::

Rhododendrons of the World
Dwarf Rhododendrons
The Rhododendron Handbook -
Hybrids.

David G. Leach
Peter Cox
R.H.S.

AN UPDATE ON "THE DAFFODILS OF HAGLEY PARK"

by

Roger Smith - N.D.H. Student

Since the first planting of daffodil bulbs in 1933 they have never been lifted and divided. As a result you can notice a difference in the number of blooms from each season. The bulbs have built up large clumps thus starving themselves, and less flowers result.

At the end of last season (1982), our curator, Mr. Warwick Scadden gave approval to go ahead to start lifting and dividing.

In February 1983 a group of us lifted and divided two small areas. We found the bulbs in good condition, there was no sign of pest or disease attack on the bulbs, they were just small, due to overcrowding.

The job involved :

- forking up the bulbs
- dividing them
- rotary hoeing the area
- addition of leaf mould
- rotary hoeing again
- tramping and raking the area
- replanting
- raking
- sowing lawn seed

This job will continue until all of the Woodlands area is lifted and divided. Also there is an area in the Woodlands that does not have any bulbs in it.

The area that was lifted last season had 800 bulbs added to it. These were 400 Carlton and 400 Golden Attraction.

The area we will lift this February is a large area with few bulbs. I would like to ask all who read this if you have any spare daffodil bulbs, could you please bring them to the Christchurch Botanic Gardens. With your help let's keep this one of the most spectacular springtime attractions in Christchurch.

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