

Horticulture

in New Zealand

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



36

Winter

1985



HORTICULTURE

IN NEW ZEALAND

ISSN 0110 - 1153

BULLETIN OF THE ROYAL N.Z. INSTITUTE OF HORTICULTURE
NUMBER 36, WINTER, 1985.

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ROYAL NEW ZEALAND INSTITUTE OF HORTICULTURE (INC)

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|------------------------------------|--|
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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

Up until the shortest day no-one could believe the lovely warm weather we were having here in Canterbury. However, since then it has been wet and cold and unfortunately everyone realises now that Winter is here. I must admit it is nice to sit by the fire in the evening and naturally read the Bulletin, or in the case of our student members, doing T.C.I. assignments!

It is also satisfying on a lovely clear cool day to get outside and do some clearing up. Having recently moved, I have discovered over the summer months that a number of fruit trees in the garden do not fruit, or are not what I consider edible. For this reason there is going to be some major pruning (ground level) and replanting going on this Winter. I hope you get around to doing all the things you want to do in your garden this Winter. It is only a matter of planning to get the good weather at the weekends!

In this issue we have quite a lot of information from the recent Annual General Meeting. I feel it is important that you read this material so you know what activities are going on in your Institute. If there are any matters you want more information on, ask your District Council Secretary or the National Secretary. I am sure they would be pleased to answer queries. We also have some very interesting articles sent in by members. Unfortunately, due to the amount of material for this Bulletin, I have had to hold some material for the Spring Bulletin.

Happy reading and good gardening.

David Shillito,
EDITOR.

Jubaea chilensis

by

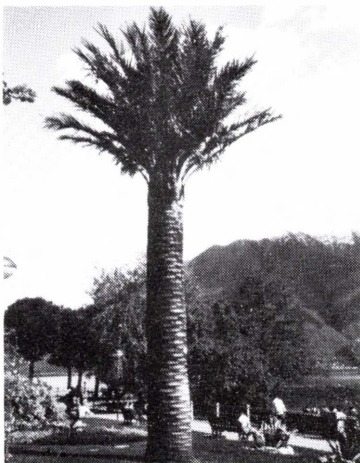
Daniel Bruhin,
Switzerland.

We have just had one of the worst winters, or rather January this century, and the palms had to endure alot in the South of Switzerland.

The coldest temperatures registered at the Isles of Brissago which is usually a bit warmer than Locarno/Muralto was minus 9.7°C at night on the 8th January (measured at 20cm high from soil). For over 10 days the temperature at night was between minus 3.8°C and minus 9.7°C and another week at night it was never 'warmer' than minus 6°C. Young seedlings of *Jubaea chilensis* survived on a slope under minus 9°C. One week later, there were snow falls which were the highest in man's memory in this part of Switzerland, Locarno, around 80cm deep (it snowed continuously for 3 - 4 days while north of the alps we had nice cold weather).

The photos are of the same palm, taken in May, 1983, and January, 1985.

Jubaea chilensis do not seem to have been harmed either by the cold or snow. Other tender species have certainly been destroyed. Time will tell later this year. Do take note that while the coldest temperature at Brissago Island was minus 9.7°C, one can assume that in Locarno/Muralto, this was around minus 11 to 12°C.



May, 1983



Locarno/
Muralto
Onais Jicino
Southern
Switzerland

January, 1984

FROM THE SECRETARY

As you all know the 1985 AGM has come and gone. Ian McDowell and his efficient team of North Taranaki District Council members are to be congratulated on staging such a successful weekend.

All District Council Secretaries now have a copy of the AGM minutes, but for the information of all members some of the points of interest to emerge from the AGM and Conference were:

- * The award of Associate of Honour was made to Mr Jim Say of Waihi, and Fellowships of the Institute were awarded to Ralph Boggust, Errol Butcher, Phyllis Hammer, and Alistair Malcolm.
- * Subscriptions for 1986 were set at \$25 per member, reducible to \$18.50 for those who do not wish to receive the 1985 Annual Journal. The need to raise the level of subscriptions was discussed at length, and it was agreed that the National Executive should look into the possibility of recommending a system of categories of membership whereby people on limited financial means, or retired members would not be faced with ever increasing subscriptions in future years.

Subscription notices will be sent out in the first week of October and will be due for payment by 31 October 1985.

- * The "Sir Victor Davies Award" was established. This will be an annual award in the form of a framed certificate to acknowledge unique contributions made to horticulture in New Zealand. Members are invited to make donations to the Award Fund, the interest on which will be used to finance the annual award. A number of donations have already been received and the fund presently stands at \$200.
- * It was noted with regret that the Manawatu District Council was in the process of being dissolved.
- * The 1986 AGM will be hosted by the Otago District Council and will be held in Dunedin.
- * The Bank's Lecture was delivered by Miss Nancy Adams on her research into botanical illustrating. She entitled her address "The Kew Connection" and in the course of tracing the development of botanical illustrating in New Zealand since the mid 1800s, she drew attention to a longstanding and continuing connection between Kew Gardens and New Zealand botanists and horticulturists. The text of her address will be one of the highlights in the Institute's 1985 Annual Journal.

- * Capitation payment to District Councils will be at a rate of \$2.50 per financial member as at 31 October 1985 (i.e. those members who have paid their 1986 subscriptions).
- * The format of the AGM and Conference weekend will be reviewed by the National Executive. A number of changes are planned for 1986.

As you will see from the Examining Board Annual Report elsewhere in this issue, the Institute's role as an Examining Authority is growing rapidly. Our student numbers have now grown to the point where they comprise 50% of our membership. It is important that the needs of both our general members and student members are met, and I am sure that all District Councils would be pleased to hear members' ideas as to what activities could be arranged to cater for both groups of members. The Wellington District Council has been active in this direction already, and Mrs Robin Bagley in Dunedin is planning student oriented activities for the 1986 Conference to encourage student members to attend this important annual function.

If you have any ideas regarding new activities don't forget that a "letter to the Editor" of the Bulletin will place your ideas in front of all 2,000 members of the Institute. How about it?

Finally, many of you will by now have seen or purchased a copy of the Institute's recently published booklet "Horticulture: The Career for You?". This booklet sets out in detail, what career opportunities exist in the horticultural field, and what qualifications and training pathways are appropriate or necessary in each case. All District Council secretaries have been sent a copy of the booklet and further copies are available from my office at the very modest cost of \$2.00 each.

Dave Cameron
NATIONAL SECRETARY.

FROM THE CHAIRMAN'S DESK

New Plymouth and the Taranaki District Council really turned it on for the Annual General Meeting and Conference. Those who did not attend missed a real treat. Our President Ralph Ballinger was wrapt in the beautiful floral art arrangements. Thank you for a great weekend.

In my Annual Report, which you probably did not read, I issued members three challenges.

- i) Get involved with the Institute - (write an article, go to District Council Meetings).
- ii) Get young people involved and holding office at District Council level.
- iii) Introduce a new member to beat 2,000 members.

Articles are not difficult to write. Did you read Marc Marcussons article on *Lapageria* - superb and most informative. They only have to be a couple of paragraphs - an observation, something new.

Meeting fellow horticulturists can be great fun. District Council meetings and activities are just the place. Go along and take a friend.

Horticulture is rapidly expanding its horizons. More people are entering the broad field of horticulture. Our Institute caters for everyone, amenity, fruit, vegetable, nursery and now floriculture. The more members we have the greater the opportunity to learn. Encourage membership of the Institute amongst your horticultural friends.

I trust you can meet these challenges because they will not only help the Institute but also you as a person and horticulturist.

Kind regards.

Alan Jolliffe.

DISTRICT COUNCIL NEWS

WAIKATO

The Waikato District Council of the R.N.Z.I.H. has recently employed two people under the Voluntary Organisation Training Programme. The first, a Herbarium Technician, Sonja Watson, is compiling and co-ordinating teaching resource kits for N.D.H. classes operated at the Waikato Technical Institute.

Our other employee is a typist/clerk who acts as secretary to the District Council.

Both are based at the Waikato Technical Institute's Horticultural Education Centre in the Hamilton Gardens.

The Hamilton Gardens will become a major scenic attraction in the Waikato with many new projects underway.

Several new projects are underway including a Hinuera stone arch bridge which is in the final stages of completion and will provide access to the Horticultural School.

Recently completed is a jetty down by the river where the Waikato River Cruise ferry "Spirit of Waikato" berths. The ferry provides scenic trips on the river. Another recent development in the Hamilton Gardens is the Waikato Technical Institute student's vegetable variety trial gardens where students are trialing different varieties of vegetables.

Construction of the Lake House which overlooks the lake at the gardens is well under way. The concrete portals have been poured, the roof structure of concrete shingles will be put in place shortly. The design of the lake house is an architecturally similar style as that of the gazebo.

One of Hamilton's few recognised historic houses has been relocated to the Hamilton Gardens from the newly designated refuse transfer station site. Plans to establish a period garden around the house will be getting underway shortly. The gardens also host Horticultural Demonstrations organised by the Waikato District Council, Hamilton City Council, and the Waikato Technical Institute each month on Saturday mornings. This programme is proving popular and local interest groups such as the Camelia Society, the Waikato Rose Society and the Dahlia and Chrysanthemum Society members have been involved along with other interest groups. Some topics covered so far have been;

Irrigation in the home and garden.
Identification and control of pests and diseases in the garden.
The establishment and care of lawns and the different varieties of lawns.
Care and propagation of lilies.
African violets and Gseneriads.

The Waikato District Council is alive and functioning. If you have not attended one of our meetings for some time why not come along and expand your Horticultural knowledge.

Angela Mackey
Ian Gear

CANTERBURY

Picnic and Guided Tour of Botanic Gardens

On a lovely summers evening the Institute organised a picnic tea followed by conducted tours of the Christchurch Botanic Gardens. After tea people had the option of a tour of the show houses, a ride on the Toost Rach, or joining the ranger Jim Baggestom for a nature walk. So that the parents would not be hampered with the children a recreation officer organised a programme for them. The botanic gardens in the evening presents a very different picture than the one visitors see during the day. Those members who attended enjoyed the evening immensely and it is hoped that others may join them when this type of function is held again.

Bedding Plant Evaluation

The Christchurch Botanic Gardens have set out trail beds of various species and varieties of bedding plants. This is to allow not only the department but members of the public to view what will be offered by the seedmen in the next few years. The criteria for the evaluation was:

Growth - height, spread vigour, uniformity.

Flower - height of flower stem, diameter of flower and colour.

Disease resistance - overall appearance.

Turf Management

This demonstration took place at Morgan and Pollards nursery, when Alan Morgan demonstrated how a good lawn can be obtained by using seed and turf. Allan outlined the various problems he was faced with in the growing of instant turf, and identified the various types of weeds and what controls are used. Much interest was shown in the automatic turf cutting machine.

WELLINGTON

The Wellington District Council continues to run bi-monthly meetings at Turnbull House. Recent meetings have covered topics as diverse as Horticultural Education in Secondary Schools and Technical Institutes, Growing and Laying Ready lawn, the Year of the Urban Tree: Where to from here? and the activities of the Wellington branch of the New Zealand Tree Crops Association.

The District Committee has run two field trips, one to learn about the historical plantings of the Wellington Botanic Gardens, and another to view the gardens at Government House. Arrangements are in hand for members to give pruning demonstrations for the public in conjunction with local Horticultural Societies.

The District Committee is also mindful of the student members. A sub-committee organises evening meetings for them at Otari Interpretive Centre from March to September. Field trips are made to the Wairarapa and Horowhenua. This year students will visit a large orchard and berryfruit grower, a market garden, and a cut-flower grower. Later this year there will be the chance for them to try out their horticultural techniques at a local body nursery in preparation for their oral and practical exams.

1984 ANNUAL JOURNAL

THE 1984 ANNUAL JOURNAL (NO. 12) IS NOW AVAILABLE.
THERE ARE STILL COPIES AVAILABLE FROM THE SECRETARY,
P.O. BOX 12, LINCOLN COLLEGE, CANTERBURY. THIS YEARS
JOURNAL IS ONE OF THE MOST COMPREHENSIVE YET AND
CONTAINS ARTICLES WHICH WILL BE OF INTEREST TO
STUDENTS AND GENERAL MEMBERS ALIKE.

COST - \$8.00 PER COPY (INCLUDES POSTAGE).

RNZIH PRESIDENTIAL ADDRESS.

CONFERENCE 1985

by

Ralph Ballinger

Over recent years the horticultural industry in New Zealand has made impressive changes and with it everything connected with horticultural has been forced to change.

These changes apply to the R.N.Z.I.H. and fortunately those people who over the years moulded the shape of the Institute, not only grounded it on a firm foundation, but also gave it a framework which allowed flexibility to meet changes and adjust to the needs of each decade.

Perhaps more important, we owe our thanks to the people who have been at the centre of our organisation. They have kept it in good heart so that as the challenges to meet changes came along, the Institute is in a position to face up to its responsibilities.

Over this last year there have been two examples of this which I would like to cover briefly:-

- the first case is in the field of education and examinations.
- the second is in the area of the protection of our trees.

First education and examinations; I have read two very fine reports from the committees concerned reflecting the important changes taking place - the number of institutions throughout the country teaching horticulture and the need to keep in touch with them. Also the introduction of the Certificate in Horticultural Theory to meet the needs of those interested in horticulture although they may not be in horticultural employment.

Then the Institute is working closely with the Agricultural Training Council and we have seen the introduction of the Certificate in Horticultural Practice and at present the prescription for a Certificate in Horticultural Management is being reviewed. All these changes are putting a strain on our resources but the challenge is being met.

Our second area of change is in the review of legislation to protect the important trees of our country. Again we are extremely fortunate that thanks to the dedication of Wellington Committee of Notable and Historic Trees, the R.N.Z.I.H. is in a position to play a leading role in advising the government on legislation in the best way to protect our trees. They understand the problems of blanket

legislation and the difficulties this could bring for local bodies who have to implement the law. They also see the need for legislation to be backed up with greater understanding and sympathy for the problem by the community, and this means education.

This brings me to my third and final point. The work which I have mentioned that is being carried out by these committees is but the spearhead. They set up the opportunities for the Institute to carry out its responsibilities, but until these projects are put into practice, such as the carrying out of an oral and practical exams in your district, the registration of that historic tree in your town, then all our plans go for nothing.

And this is where you, and every member of the Institute comes in. There is a challenge and an opportunity before this Institute at present, which if taken up, can place this organisation in the forefront of the horticultural industry. It is up to you.

What it means is putting those tasks which you have intended doing for the Institute a little higher up on the list of priorities of those many things you have on your programme.

- ... the Tree Registration Officer in your district needs encouragement and more assistance in getting those trees registered.
- ... there are young people who need advice on which courses of study to follow in horticulture.
- ... your local body needs assistance in sorting out its responsibilities on how to protect trees in your town.
- ... another suggestion - look at the open spaces in your town ... sports grounds, schools, hospitals, river banks, town approaches and playgrounds and suggest to these organisations that their surroundings could be improved with more trees. Perhaps you could help with landscaping, or the planting of trees.

These are exciting times in horticulture. They are also challenging times. Whether they be growers, exporters, suppliers, advisers - or even organisations such as ours, some will ... fall by the wayside - others will thrive. I believe that if all our members play their part, the Royal New Zealand Institute of Horticulture has the knowledge, and the ability, to meet the challenges of these days and play its rightful role in the future ... and you will belong to an organisation of which you will be proud to be a member.

ROYAL NEW ZEALAND INSTITUTE OF HORTICULTURE INC.

EXAMINING BOARD ANNUAL REPORT

TO 1985 ANNUAL GENERAL MEETING

The Examining Board is important in the overall activities of the Institute. Since the last report the Board has met on four occasions and its Executive Committee on three occasions. The time and effort of Board members certainly is appreciated. New members appointed to the Board in 1984 were:

- Mr Alan Hyde - representing the Horticultural Training Committee of the Agriculture Training Council.
- Mr Alan Noble - representing the New Zealand Vegetable and Produce Growers.
- Mr Dudley Brown - representing the New Zealand Fruit-growers' Federation.
- Mr Lawson Robertson - representing the Department of Education.

Throughout 1984 and 1985 the Board continued its active co-operation with the Horticultural Training Committee of the Agricultural Training Council (A.T.C.) and with the Parks and Recreation sector of the Local Government Training Board (L.G.T.B.).

From an administrative point of view 1984 was a difficult year; three Secretaries in the one year caused a number of problems. The present Secretary, Mr David Cameron, commenced on the 15 October in the middle of preparations for all examinations. He and his team coped very well. All of the examinations were conducted in a very satisfactory manner. The results were collated and tabled at the Board meeting on 15 January, and result sheets were forwarded to all students by 17 January, 1985.

During 1984 the Board has been concerned with the examination of students and has been involved in a number of projects. The following aspects are reported:

1. "Horticulture:- The Career For You?"

This booklet has just been published and is being distributed widely. It outlines career opportunities in horticulture, and provides information on the training programmes leading to a range of qualifications that are available in teaching institutions. The booklet will be distributed to all who are

actively involved in giving advice to persons seriously considering horticulture as a career. Copies will be available for sale along with other publications of the Institute.

The Institute is grateful to those who contributed and assisted in the production of this publication, especially to Mr Mark Wootton who completed much of the initial work. Horticultural education is changing rapidly in response to the demands of the industries involved, and in response to the growing importance of horticulture in the economy. Although the booklet has been edited with care there could be errors and omissions and the Institute would like to be informed of these. Thus when it requires reprinting alterations and amendments can be included.

2. Certificate in Horticultural Practice (C.H.P.)

During 1984, in co-operation with the A.T.C., this qualification was reviewed. Several meetings were attended by Board members, and a new Prescription was prepared. Comments were received from industry groups involved and by other organisations and a final draft has been finalised. This has to be approved by the Board, and then submitted for approval by the Minister of Agriculture before gazetting. It is planned that the new Prescription will come into effect in 1986.

The Moderator of the 1984 C.H.P. Examinations was Mr Paul Pollock of Gisborne. There were 120 candidates, with seven venues.

3. Certificate in Horticultural Theory (C.H.T.)

This is a new Certificate and the details of the Approvals Notice have been finalised, approved by the Board, and sent to the Minister of Agriculture for his approval and then gazetting.

The Certificate consists of nine subjects, which can be completed over a 2 - 3 year period. At present Subject 9 consists of 5 options - one of which is selected and studied for the qualification. Tuition for all subjects is available through the N.Z.T.C.I. and some Technical Institutes and Community Colleges.

The Board has been aware for some time of persons in other occupations who wish to obtain tuition and a qualification in horticulture. This qualification is for these persons. If they enter a practical horticultural occupation the subjects of the C.H.T. can be cross-credited to an appropriate option in the N.D.H. programme.

4. Conference of Principals/Directors of Agricultural Colleges of the South West Pacific.

In September, 1984 I attended this Conference and presented a paper on "The Role of the R.N.Z.I.H. in Horticultural Education in New Zealand". This now has been printed in the summer, 1985 issue of the Bulletin (No. 34, pages 19 - 25). Copies of the article have been distributed to many persons and organisations involved in horticultural education.

The Conference was an excellent opportunity to learn of developments in the region, and I am grateful for the financial assistance from the Queensland Agricultural College that enabled me to attend.

5. Qualifications in Beekeeping

It is clear that there is a need for well defined training pathways in beekeeping. The Board has been involved in this aspect of horticulture for many years, and is trying to arrange a meeting or meetings to discuss the issues, and to establish appropriate training objectives and pathways.

6. Revision of the National Diploma of Horticulture (N.D.H.)

This task commenced in 1983 and further progress has been achieved. A draft revision was circulated in 1984 to all industries and to a number of individuals. Comments on the revision were received and many have been incorporated in the final draft. Some aspects will require further consideration by the Board. However it is hoped that all matters can be finalised during 1985, so that the revision can be gazetted and be in place for 1986.

The main changes are:

- a) There will be an extra option available i.e. in floriculture.
- b) Each option will be of the same length i.e. 20 subjects.
- c) The National Certificate of Horticulture will be gained after passing 14 subjects, the N.D.H. after passing an additional six subjects, one of which is a dissertation, and the N.D.H. with Honours after the completion of a thesis on a particular topic.

7. Certificate in Parks Practice (C.P.P.)

The Board, through Mr John Taylor, has worked closely with the L.G.T.B., in the development of this qualification. Tuition should be available in 1986, with the initial students likely to be examined in 1987. The course will be generally of two years and is likely to be popular with staff employed by educational organisations, and sporting and recreational organisations in local body areas. As with other Certificates it will be necessary to establish the relevance of the Certificate in relation to the appropriate industrial awards.

8. Certificate in Horticultural Management (C.H.M.)

The Board has agreed to be the examining body for this new Certificate. This Certificate has been under investigation for some time by the A.T.C. and other interested organisations.

The Board recently has established a Prescription Committee to consider the details of the Prescription for this Certificate. Mr R.J. Ballinger has agreed to chair the Committee and the first meeting was held on 30 April, 1985.

9. 1984 Examinations

A total of 560 students were examined for the Institutes' various qualifications in 1984. This included 432 candidates for written examinations, N.C.H./N.D.H. and H.S.C. Oral and Practical examinations plus 123 candidates for the Oral and Practical examinations for the Certificate in Horticultural Practice.

The Institute conducted written examinations in 36 centres (including 4 overseas) and Oral and Practical examinations at 18 separate venues. This involved the appointment of over 60 examiners.

The increase in written examinations has been handled by the secretariat without great difficulty but as numbers continue to increase, the move to computerised records is a must in the near future. A carefully designed computer based record system will allow for the administration of examinations of the new qualifications at present being developed to be undertaken with the existing staff resources.

The Oral and Practical examinations are becoming a bigger and bigger exercise as the number of candidates continues to grow. It is imperative that the Institute reaches a point where it is able to generate sufficient income to cover the considerable out of pocket expenses sustained by the many Oral and Practical Examination Committee members and Examiners.

10. Financial Requirements

All examination fees, payments to examiners and moderators, and other examination expenses were reviewed by the Board in February, 1985. Recently the Finance and Administration Sub-Committee of the National Executive reviewed the 1985 projected income and expenditure of the entire Institute and its recommendations concerning adjustments in subscriptions and salaries are incorporated in the budget estimates for 1985 which have been submitted to the National executive for approval.

The main features of the Examinations Account are set out in the Appendix to this report.

It is noted with some concern that the Minister of Agriculture has advised that the Government Grant for 1985 will be no higher than the 1984 grant. This matter is still under negotiation.

The 1984 annual balance sheet for the Board shows that, because of unusual circumstances, there was a surplus of income over expenditure during the 1984 year. This Board considers that a surplus is not only desirable but essential. Such funds are required not only to finance the review of existing qualifications, but also to provide for the investigation and development of new qualifications. During the last three years this Board has reviewed the Horticultural Sales Certificate, the Certificate of Horticultural Practice (in conjunction with the A.T.C.) and has initiated a review of the N.D.H. Considerable time and effort has been put into the development of the Certificate in Horticultural Theory. In 1985, the Board has to cope with the final review of the N.D.H., the development of the Certificate of Horticultural Management Prescription, and the Certificate in Parks Practice (in conjunction with the L.G.T.B.). These require not only a time commitment by staff and members of the Board but also an on-going financial commitment to establish and support the Prescriptions Committees.

Acknowledgments

The Board appreciates the voluntary assistance and support received from many organisations and persons.

The Board is grateful to the Auckland Regional Authority, Auckland City Council, Lower Hutt City Council, Christchurch City Council, Levin Horticultural Research Centre, D.S.I.R. research orchards at Havelock North and at Appleby, for making available facilities and people for the conduct of the N.D.H. Oral and Practical examinations. The work of the N.C.H./N.D.H. moderator, Mr J.O. Taylor, at examinations in Auckland, Lower Hutt and Christchurch is gratefully acknowledged. The management of a garden centre in Auckland, in Lower Hutt and in Christchurch is thanked for providing a venue and facilities for the conduct of the Horticultural Sales Certificate Oral and Practical examinations.

The Chairmen of examiners and other voluntary examiners in Keri Keri, Auckland, Kati Kati, Te Puke, Gisborne, Hastings, and Nelson are thanked for their work and involvement in the C.H.P. examinations. The Board has appreciated the conscientious and thorough work of the C.H.P. moderator, Mr Paul Pollock.

Ronald C. Close,
Chairman.

April, 1985.

APPENDIX TO EXAMINING BOARD REPORT

AT 1 MARCH 1985

Examinations 1984

Written Examinations:

Number of candidates examined 432

National Diploma in Horticulture

| | | |
|----------------------------|-----|-----|
| Schedule I | 226 | |
| Schedule II | 59 | |
| Schedule III | 18 | |
| Schedule IV | 103 | |
| Hort. Sales Certificate | 25 | |
| Nat. Diploma in Apiculture | 1 | 432 |

Number of Examination Centres 36*

* Kaitaia to Invercargill plus Perth, Sydney, Papua New Guinea and Rarotonga.

Number of examiners appointed 60

Oral and Practical : National Diploma in Horticulture

Number of students examined:

| | | | |
|----------------------|------------|----|-----|
| Auckland - Schedules | I and IV | 48 | |
| Lower Hutt | " I and IV | 30 | |
| Christchurch | " I and IV | 30 | |
| Havelock North | " II | 12 | |
| Nelson | " II | 6 | |
| Levin | III | 6 | 132 |

Oral and Practical : Horticultural Sales Certificate

| | | |
|--------------|---|---|
| Auckland | 5 | |
| Wellington | 2 | |
| Christchurch | 1 | 8 |

Oral and Practical : Certificate in Horticultural Practice

| | | |
|-------------|----|-------|
| Auckland | 24 | |
| Keri Keri | 13 | |
| Nelson | 9 | |
| Hastings | 14 | |
| Poverty Bay | 9 | |
| Te Puke | 25 | |
| Kati Kati | 29 | 123 |
| | | <hr/> |

Oral and Practical : National Diploma in Apiculture

| | | |
|-----------|---|-------|
| Balclutha | 1 | |
| Nelson | 1 | 2 |
| | | <hr/> |

General

1. Six candidates have completed the requirements for the award of the National Diploma in Horticulture.
2. Forty nine students have qualified by examination for the award of the National Certificate in Horticulture:

| | |
|--------------|----|
| Schedule I | 32 |
| Schedule II | 10 |
| Schedule III | 3 |
| Schedule IV | 5 |

3. Eight students completed the examination for the Horticultural Sales Certificate.

FINANCIAL STATEMENT - EXAMINATIONS ACCOUNT

| | <u>1985 Estimate</u> | <u>1984 Actual</u> | <u>1983 Actual</u> |
|------------------------------------|----------------------|--------------------|--------------------|
| <u>INCOME:</u> | | | |
| C.H.P. Enrolments | 9,000 | 5,925 | 2,670 |
| Student Registrations | 6,000 | 3,852 | 2,053 |
| Examination Entries | 44,160 | 23,890 | 14,335 |
| Government Grant | 36,156 | 36,156 | 33,656 |
| Loder Cup | 1,500 | 1,500 | 1,000 |
| Sundry | 700 | 507 | 702 |
| Careers for Hort. | 3,025 | | |
| | <u>100,541</u> | <u>71,830</u> | <u>54,416</u> |
| <u>EXPENDITURE:</u> | | | |
| Exam Board Expenses | 22,000 | 7,227 | 3,448 |
| Examiners Fees and Expenses | 22,640 | 13,142 | 14,191 |
| Loder Cup Committee | 1,500 | 1,500 | 1,000 |
| Postage and Telephone | 3,500 | 2,292 | 2,411 |
| Printing and Stat. | 6,500 | 5,778 | 3,859 |
| Salaries and Wages | 39,000 | 33,596 | 31,223 |
| Transfer to "Careers in Hort" Fund | - | 3,000 | - |
| Other | 2,020 | 1,426 | 946 |
| | <u>97,160</u> | <u>67,961</u> | <u>57,078</u> |
| Surplus (Deficit) | 3,381 | 3,869 | (2,662) |

BOOK REVIEW

"FLORA OF NEW ZEALAND LICHENS"

by

D.J. Galloway;

Government Printer, 1985

Price \$39.95.

Many of the world's largest and most striking Lichens are found in New Zealand. Lichens are common throughout our forests and scrublands. Most people know of them, but few can name even the most common genera. Lichens are with us in our towns and cities too, but can you identify common species of *Parmelia*, *Ramalina*, *Teloschistes*, *Usnea* or *Xanthoria*? Probably not, yet these Lichens are part of our every day environment, where they are common epiphytes on many of our trees and shrubs. You will also find many of them on fence posts, roofs, roads and walls. The Lichens are truly ubiquitous, yet most of us hardly notice them.

Now that this Lichen flora has been published we have no excuse to remain ignorant about the identity of our common Lichens. Although written for the specialist botanist, the Flora of New Zealand Lichens could be used by any dedicated amateur botanist or student. (Many beginners would be aided by using it in conjunction with the handbook "New Zealand Lichens" by Martin and Child; Reed, 1972).

The Flora of New Zealand Lichens describes nearly 1,000 Lichens in 200 genera. The keys and species descriptions are well supported by an excellent glossary.

Rob Lucas.

Progress is like a wheelbarrow. If you don't keep pushing it, it stops.

R.N.Z.I.H. NATIONAL EXECUTIVE

NOTABLE AND HISTORIC TREES COMMITTEE

ANNUAL REPORT 1984-85

This year has been one of consolidation. To overcome the difficulties in completing Committee business at our monthly meetings, each member has agreed to take an area of responsibility.

| | |
|-------------------|--|
| Conrad Pharazyn | - Chairman and liaison with Tree Registration Officers |
| Natalie Hearfield | - Secretary |
| Wilf Watson | - Mapping and tree registration progress monitor |
| Donal Duthie | - Technical Advisor |
| Shirley Robertson | - Publicity |
| Kim Jarrett | - Media Publicity |
| Winsome Shepherd | - Assistant Convenor and Historic researches |
| Ron Flook | - Convenor |

We have regrettably lost Ms Sue Smith as Chairman and Mrs Norma Goodman as Secretary.

The demands made on the Voluntary Committee are very severe.

We have been frugal in the management of our finances and a balance sheet is attached. We have also included a forecast of expenditure which indicates that we predict a shortfall due to the increased attention our work is drawing.

However this year has also been one of remarkable achievement. Our national tree registrations have increased to a total of 134. These tree registrations are very time consuming and our Tree Registration Officers, while not all able to achieve registrations need thanks and the encouragement of the R.N.Z.I.H. as well as continuous support from our Committee. We still have immense difficulty in getting answers from the Auckland area and there is a definite need for more TRO's to serve this large region.

Generally District Councils could be more supportive of this valuable scheme. This is especially needed now. We are gaining support from Government at Cabinet level with great assistance from the Commission for the Environment. Dr Philip Simpson of that department has provided splendid encouragement and some financial help for the promotion of a most successful seminar held in Wellington on 19 March this year, under the chairmanship of Mr Alan Jolliffe. The meeting was attended by key representatives from important organisations. Also attending were Mr Bob Burstall and Mr

John Hogan of Friends of the Urban Tree. It was especially pleasing to have Mr Bob Burstall at the seminar and public recognition of his great work is long overdue. Mr John Hogan's support for our scheme has lent great weight to our efforts for tree protection. The need for legal protection of significant trees can be exemplified by the loss of two Norfolk Pines out of five in Eastbourne, Wellington. Against all advice these two healthy trees were cut down by the Eastbourne Borough Council, who claimed that the trees were blocking drains. It has since been agreed by the Council that this was not the case.

We have formulated our requirements for legislation as follows:

1. Legal protection for trees of national and local significance but not blanket protection as was first advocated by Friends of the Urban Tree.
2. Standard methods for valuation and also the maintenance of protected trees.

To effect this legislation it will be necessary to appoint a paid national administrator to co-ordinate the work of part time TRO's, paid on a hourly rate. This system is used very successfully by the QEII Trust for property overseers. This is a key recommendation for legislation. Further, a national board will be necessary to implement and administer the above proposals.

We are able to announce that a first step will be taken on 10 June, when a working party will meet in Wellington to act upon the resolutions concluded from the seminar held on 19 March. Dr Philip Simpson of the Commission for the Environment has been asked and has accepted chairmanship. Mr Alan Jolliffe and some members from the Notable and Historic Trees Committee will form the working party. They will examine definitions for national and local trees and related problems. Three meetings will be held and thereafter will provide positive proposals for legislation. Submissions will be invited from selected sources.

To conclude, our most important need at present, is the active support of R.N.Z.I.H. members to assist TRO's in this demanding role and their need to be effective.

My special thanks go to the invaluable work done by the committee and to the R.N.Z.I.H. executive for your support now and in the future.

Ronald Flook,
Convenor.

GRADUATES — 1984 EXAMINATIONS

NATIONAL CERTIFICATE IN HORTICULTURE

SCHEDULE 1

| | | | |
|----------------|----------------|----------------|----------------|
| S.H. Baynes | - Wellington | A.M. Logan | - Hastings |
| D.L. Belcher | - Timaru | C.F. McGeady | - Christchurch |
| D.W. Bracewell | - Masterton | J.A. McMillan | - Hamilton |
| C.W. Coenen | - Hamilton | K.L. Marryatt | - Wellington |
| S.R. Currie | - Hamilton | W.J. Milne | - Gore |
| W.J. Dalgleish | - Lower Hutt | G.A. Mulvay | - New Plymouth |
| D. Dalton | - Auckland | K.M. Newbery | - Christchurch |
| L.A. Davey | - Auckland | M. Nicholson | - Auckland |
| R.E. Davidson | - Dunedin | M.G. O'Higgins | - Kaikohe |
| C.J. Freeman | - Christchurch | G.J. Salton | - Christchurch |
| K.L. Furness | - Invercargill | J.L. Sayers | - Hamilton |
| P.J. Gibbons | - Christchurch | B.W. Spencer | - Invercargill |
| W.H. Gibson | - Dunedin | A.G. Taylor | - Dunedin |
| M.I. Herbert | - Wellington | S.F. Telfer | - Invercartill |
| J.G. Hewitson | - Christchurch | L.G. White | - Wellington |
| P.R. Hopkins | - Levin | | |

SCHEDULE II (Fruit)

| | | | |
|---------------|-------------|---------------|------------|
| C.P. Ashworth | - Keri Keri | M.D. Hoare | - Tauranga |
| G.B. Cullen | - Nelson | L.H. Mochan | - Hastings |
| A.G. Dyer | - Nelson | W.M. Pulford | - Nelson |
| P.J. Grimmett | - Nelson | R.N. Reynolds | - Tauranga |
| L.J. Gifford | - Hamilton | A.R. Tate | - Tauranga |

SCHEDULE III (Vegetable)

| | | | |
|------------------|------------|-------------|----------|
| R.C. Hutton | - Auckland | M.A. Nelson | - Nelson |
| M.P. Van Tilburg | - Auckland | | |

SCHEDULE IV (Nursery Management)

| | | | |
|--------------|----------------|------------|----------------|
| R.G. Ayto | - Hastings | M. Lloyd | - Christchurch |
| J.R. Hawker | - Dunedin | A.R. Tills | - Auckland |
| S.L. Jackson | - Christchurch | | |

NATIONAL DIPLOMA IN HORTICULTURE

SCHEDULE I

| | |
|------------|-------------|
| J.K. Gavin | - Whangarei |
|------------|-------------|

SCHEDULE II (Fruit)

| | |
|---------------|------------|
| G.P. Swinburn | - Auckland |
|---------------|------------|

SCHEDULE III (Vegetable)

| | | | |
|-------------|--------------|------------|----------------|
| M.H. Rhodes | - Wellington | G.H. Wells | - Christchurch |
|-------------|--------------|------------|----------------|

SCHEDULE IV (Nursery Management)

| | |
|-------------|------------|
| N.J. Arbury | - Auckland |
|-------------|------------|

CERTIFICATE IN HORTICULTURAL PRACTICE

AUCKLAND

Citrus & Sub-Tropical Fruit Production

| | | |
|--------------|----------------|--------------|
| K.D. Fanning | C.D. Gass | M.J.S. Green |
| M.J. Hill | A.M.A. Houlden | M.H. Hyde |
| D.K. Oswald | M.K. Stevenson | S.J. White |

Pip & Stone Fruit Production

| | | |
|-----------------|--------------|---------------|
| N.J. Burton | B.A. Coppock | E.A. Gjaltema |
| R.A. MacCulloch | F.J. Murray | G.J. O'Brien |
| H.D. Shepherd | N.A. Walker | J. Owst |

Glasshouse Vegetable Production

| | |
|---------------|-----------|
| A.B. Bradding | M.L. Dean |
|---------------|-----------|

Outdoor Vegetable Production

| | |
|------------|-------------|
| G. Bedford | K.R. Purdie |
|------------|-------------|

KERI KERI

Citrus & Sub-Tropical Fruit Production

| | | |
|-------------|-----------------|-------------------|
| S.G. Budd | N.W.A. Cates | C.M. Franklin |
| R.R. Hughes | K.J. Inverarity | J.J. Kelsall |
| B. McGehan | D.B. Mortimore | K.L. Parris |
| R. Rahiri | P. Traas | T. Van Der Velden |

NELSON

Citrus & Sub-Tropical Fruit Production

| | | |
|--------------|--------------|---------------|
| R.P. Brown | N.S. Parish | J.E. Blanche |
| B.A. Fullick | J.E. Hefford | G.P. Kendal |
| C.D. Mackle | G.D. Robb | B.P. Thompson |

HASTINGS

Pip & Stone Fruit Production

| | | |
|-----------------|-----------------|--------------|
| M.E. Andersen | J.P. Bretherton | J.C. Clayton |
| S.G. Cockerill | A.C. Dodunski | J.R. Evans |
| J.E.A. Falls | V.J. Graham | R.M. McKay |
| M.I. MacPherson | D.B. Monagan | W.B. Riach |
| C.W. Tuuta | W.R. Verry | |

POVERTY BAY

Citrus & Sub-Tropical Fruit Production

| | | |
|------------|--------------|---------------|
| G.W. Hall | M.P. Hammond | B.W. McKibbin |
| B. Poulsen | | |

Viticulture

| | | |
|-------------|------------|-----------|
| J.R. Sutton | B.C. Davis | P.P. Eden |
|-------------|------------|-----------|

TE PUKE

Citrus & Sub-Tropical Fruit Production

| | | |
|---------------|----------------|---------------|
| T.R. Bibby | T.J.A. Collins | P.B. Crawford |
| S.J. Dovaston | C.J. Eddy | D. Hart |
| A.B. Henry | B.D. Hoyte | G.B. Jeffcoat |
| S.C. Machirus | I.J. Mattler | T.F. Murray |
| B.R. Murphy | S.P. Orr | S.G. Owen |
| C.W. Reeves | R.A. Robinson | D.A. Schick |
| G.N. Watts | E.M. Zonneveld | T.E. Hughes |
| D.R. Wills | J.M. Richards | |

KATI KATI

Citrus & Sub-Tropical Fruit Production

| | | |
|-----------------|-----------------|---------------|
| S.C. Abbott | D.P. Anderson | G.A. Black |
| S.C. Carnachan | R. Carter | R.L. Cherry |
| P.A. Cousins | P.A. Crosby | C.R. Hooper |
| D.J. James | G.K. McCullough | A.S. McMaster |
| M.P. Madsen | E.R. Merriman | W.A. Moore |
| A.L. Noble | M.R. Penfold | M.A. Penney |
| B.R. Phillips | V.P. Quedley | B.T. Sigley |
| C. Stewart-Rowe | N.R. Strong | A.J. Trubshaw |
| D.R. Walden | | |

HORTICULTURAL SALES CERTIFICATE

| | | |
|----------------|---|--------------|
| W.N. Campbell | - | Kaikohe |
| D.A. Clayton | - | Hamilton |
| L.C. Johansson | - | Christchurch |
| J.C. McIntosh | - | Whakatane |
| J.A. Pack | - | Wellington |
| S.A. Crozier | - | New Plymouth |

CONGRATULATIONS

Congratulations to the following winners of prizes for meritorious performance in the 1984 examinations :

J.A. CAMPBELL PRIZE - for candidate completing National Certificate in Schedules I or IV with best average marks in Subjects Nos. 10-14.

S. R. CURRIE - HAMILTON

DAVID TANNOCK PRIZE - For highest marks in Oral and Practical (No. 21) Schedule I

D. T. SOLE - WELLINGTON

JUNIOR MEMORIAL PRIZE - for highest marks in Oral and Practical I (No. 9), all Schedules.

B.R. SMITH - TWIZEL

P.J. SKELLERUP PRIZE - for candidate completing Nos. 1 - 9 All Schedules, with best average marks.

N. J. ORCHARD - WELLINGTON

NEW ZEALAND VEGETABLE AND PRODUCE GROWERS' FEDERATION PRIZE
Best overall record for the year in the Schedule III examinations by other than a first year student.

G. H. WELLS - CANTERBURY

RITA M. SKELLERUP PRIZE - for candidate completing National Certificate in Schedules II or III, with the best average marks in Subjects Nos. 10 - 14.

A. R. TATE - TAURANGA

DUGALD MCKENZIE PRIZE - for the best thesis presented in N.D.H. Schedule I.

J.K. GAVIN - WHANGAREI

NEW ZEALAND NURSERYMEN'S ASSOCIATION PRIZE - for the best record for the year in Schedule IV.

C. P. OLSEN - PALMERSTON NORTH

WHANGAREI DISTRICT COUNCIL PRIZE - for the best thesis submitted for N.D.H. Schedule IV.

N.J. ARBURY - AUCKLAND

NEW ZEALAND FLAXES

Mr. J.O. Taylor (past Chairman of the National Executive) received the following letter from Mrs. Rene Orchiston, Flaxton, R.D.1, Gisborne. Mr. Taylor had followed up the suggestion of Mrs. Eleanor Burgess, F.R.I.H., Wanganui, that her friend in Gisborne would have a valuable contribution to make on the growing and presentation of flax cultivars :

Dear Mr. Taylor,

I have always been particularly interested in this plant and never missed an opportunity to watch the skilled fingers of the Maori women working the blades and fibre. Very often it disturbed me to observe these fine crafts people using inferior material and whenever I asked, "why?" was usually given the same reply, that it was difficult to find the correct varieties necessary for the different types of articles they were producing, so I thought I would do something about it.

It was 20 years ago that I became really aware of flax and began collecting fans of the old traditional types, and their names. I found many of the elderly Maori women of the districts enjoyed "talking flax" with me and were intrigued with my enthusiasm, as at that time, the younger folk were not interested. Usually they could name one or perhaps two of their favourite varieties and would be glad to exchange a small fan for fruit and honey which I always carried in the car. In this way I built up my collection of over 55 of the most desirable varieties from many parts of New Zealand. Fortunately things have now changed as there has been quite an upsurge in Maori weaving and requests for the right material.



Traditional Maori
flax varieties

My aim was to preserve and propagate, then to return these plants. I have already distributed thousands of plants to the marae round Gisborne and East Coast areas, Te Aute College, Te Kuiti, Wanganui and have a full planting programme ahead this winter.

I hope with care and attention they will flourish and provide an abundant supply of superior flax, for example the short, straight strong fibre flax for pui pui, the long black edged, bendy flax which produces long silky fibres for the production of the finest cloaks and Kerowai and the long stronger blades for Wharike floor mats etc.

Mr. Walton Walker, Projects Officer for the Council for Maori and South Pacific Arts, Wellington, is particularly interested and plans have been made for him to come to Gisborne in May. He proposes to detail someone to record and document the flax collection, so, in time, something will be recorded and maybe published.

Mrs. Rene Orchiston



Rene Orchiston
and Aromea
Temaipi collect-
ing "Koohunga"
flax for the Kiwi
feather kit Aromea
made to be pre-
sented to Princess
Diana when she
and Prince Charles
visited Gisborne
in 1983.

AUSTRALIAN SAWFLY

by

Richard Holland, Manukau City Council

Order - *Hymenoptera*
Family - *Pergidae*
Genus - *Phylacteophaga*

The Australian sawfly, a pest previously unknown in New Zealand has become established in Manukau City, South Auckland District. The pest could spread to other North Island districts and eventually to the South Island.

The pest is actually a wasp and not a fly as the common name indicates.

Species Attacked

The sawfly has been found on the following Eucalyptus species :
Eucalyptus botryoides, *E. cinerea*, *E. ficifolia*, *E. leucoxydon*,
E. sideroxydon, *E. macarthurii*, *E. viminalis*.

The pest has also been recorded in Australia on Oak and Liquidamber and there is concern that it may attack Feijoa and *Metrosideros excelsa* (Pohutukawa) which are the same family as Eucalyptus (Myrtaceae) in New Zealand.

Symptoms

The leaves appear blistered with brown dead areas where the larvae, which is a leaf minor, has eaten out the central cells of the leaf, leaving the epidermal outer membrane intact. When the leaf is held up to the light the small whitish, flat larvae can be seen inside, feeding on the leaf.

The adult wasp lays a single egg per leaf, which hatches inside the leaf, where it also pupates and emerges as an adult.

The damage has been most severe on young trees where it has almost destroyed the leaves and although this has not killed the plants, it has made them extremely unthrifty.

Control

It was thought that the insect was introduced from Australia on plant material and was first noticed about one month ago on Eucalyptus trees near Auckland Airport.

Spraying with insecticides, such as Gusathion A (Azinphos ethyl) has a degree of success but because the pest is totally enclosed and protected in the leaf, total control can be difficult.

The pest has no predators in New Zealand and the D.S.I.R. and N.Z. Forest Service are to investigate biological control, which may be the only effective control. They are considering

introducing an 8 cm long parasite to control the sawfly wasp.

The N.Z. Forest Service is very concerned about this new pest as it could severely harm New Zealand's Eucalypt forest industry, which is in the early stages of development. So far the wasp has only been recorded in the urban wards of Mangere, Manurewa, Otara and Pakuranga and has been found on park trees.

If the pest, or what you consider to be a similar symptom on the leaf is found in your area, it should be reported to the N.Z. Forest Service who are monitoring the spread of the insect.

The introduction of another pest into New Zealand which could prove very troublesome highlights the need for all travellers to adhere to plant quarantine regulations especially those in the field of horticulture.

ENVIRONMENTAL FORUM

by

Diane Menzies,

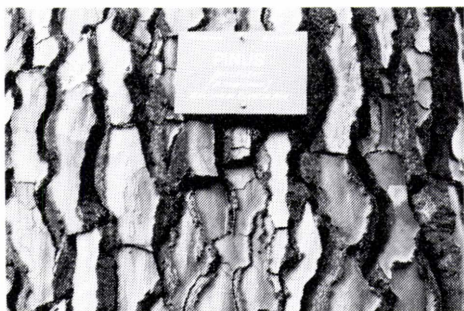
Forum Participant.

Changes Government intends to introduce are likely to affect R.N.Z.I.H. members. An Environment Forum was convened in Wellington on March 8, 9 and 10. 150 invited participants debated the future functions of a new Ministry for the Environment, the role of a Parliamentary Commissioner for the Environment and the future of the Nature Conservation, Planning and Environment Councils. Debate and discussions took place in the Legislative Chamber, a very fitting setting, as well as during coffee and meal breaks in the 'Beehive'. A discussion paper compiled by the State Services Commission on Environmental Administration in New Zealand was circulated before the forum and over 500 submissions from groups and individuals throughout New Zealand had been received by the start of the forum.

The debate was stimulating and constructive with a strong consensus on most topics, - surprising given the wide range of backgrounds of the participants.

A task group has now been set up by Government to resolve how the new ministry should be structured, what legislation is needed and what other changes, especially in the area of nature conservancy should be introduced. Their proposals are likely to be put to caucus within the next month.

STUDENT SECTION



Maritime or cluster pine,
Pinus pinaster (Pinaceae)

Country of origin - Southern
Europe

Propagation - seed

EDITORIAL

The winter season is a busy time for gardening interests and for studying. Although shorter, cooler days prevail, work to be done in the garden is plentiful. Many annual practices occur now - planting of trees and shrubs, pruning and incorporation of manure/organic matter into the soil taking priority. Students should take the opportunity to attend practical demonstrations on pruning of roses and fruit trees which are held at this time of year.

The harsh frosts have put an end to the extended growing season in this part of the country although there is still a shortage of precipitation. The distinctive scent of winter sweet *Chimonanthus praecox* is a pleasant indication of winter.

At this time of year we put anti-freeze in vehicle radiators throughout many parts of New Zealand. Interesting to compare this to an example of nature's ability to withstand low freezing temperatures as graphically demonstrated by members of the *Pinus* genus. The needle leaf of the pine is highly specialised to withstand adverse conditions such as low temperatures. A small surface area in proportion to volume, and a thickening of the resin in the resin canals during winter, so to 'insulate' the leaf, illustrate the point.

Hope the study is going well. When you take a break, it would be a good idea to send in a contribution to the bulletin - that's not a hint, just a gentle reminder!

Kind regards
Nick Owers.

HANDLING PEST AND DISEASE SPECIMENS

by

D.H. Hicks

A question in the oral and practical examination asks you to identify the pest, disease, or disorder on plant specimens. Students take it in turn to examine these and make their decisions. It is fair that the last student finds on them the same evidence as the first student. However one student, by excessive or inconsiderate handling of the specimen, can destroy the evidence for the students that follow.

To help you keep the specimens in good condition here are a few pointers.

1. Study the specimens before you touch them. Look for any obvious symptoms.
2. Pick up a containerised specimen, by the container, otherwise pick it up by the stem.
3. Use the hand lens provided to examine both leaf surfaces, stem and buds. This should confirm your diagnosis from 1 above.
4. Avoid unnecessary handling of the specimen. Do not, for example, run a leaf between your thumb and forefinger. It may help you think but it will not help you to feel the fungal spores or the two-spotted mite that could be there.
5. Learn to recognise the early symptoms of damage. Remember that in November insects or mites on a specimen may be few in number.
6. Replace the specimen back from where you got it.

INVESTIGATION INTO REQUIREMENTS FOR EDUCATION AND TRAINING IN HORTICULTURE IN THE AUCKLAND REGION.

by

David Lythe

*Head of the Horticulture Department
Carrington Technical Institute*

An investigation into requirements for education and training in horticulture has recently been conducted by David Lythe, Head of the Horticulture Department at Carrington Technical Institute in Auckland. Extensive field visits, together with a postal survey of past students enabled a fair picture of current trends to be established.

A clear profile of the Institute's typical adult student emerges from the postal survey: a 30-44 year old male, developing a horticultural small unit, part-time while continuing in some other employment and with his wife assisting in the venture. Gross earnings are small and likely to remain modest with few opportunities to employ others. He has a wide range of further training requirements, preferring practical, indepth and short specialist courses during the March - August period and preferably held in the evenings or on Saturdays. From the survey it can be estimated that every year's graduate students are initially earning a total of \$3 million from horticulture with their ventures' total potential rising to \$13 million. This modest expectation is clearly a challenge to the teaching institution and advisory services to work to maximize production and achieve effective utilization of smallholdings in the region.

Horticulturalists interviewed, expressed the conviction that serious shortages would become apparent in the near future in the areas of supervision and middle management. Constant stress was also given to the need to develop training programmes in management techniques leading to the highest level of quality control.

The Institute is currently developing teaching programmes in South Auckland and the Rodney district as well as at the main campus in Mt. Albert. The Institute's place within the nationwide network of education and training is affirmed and links with other providers such as the Technical Correspondence Institute are to be maintained. Recommended initiatives and new developments include :

- * recognizing the major contribution of rural women through increased learning opportunities.
- * offering more short, specific practical courses perhaps as

field-days on smallholders' properties.

- * expanding the existing introductory Horticulture Seminar series to include Agriculture and Animal Husbandry topics.
- * offering additional horticulture and farm management programmes as block courses or with a mixture of correspondence learning and class tuition.
- * establishing links with secondary schools teaching horticulture with a view to supporting teachers and their teaching programmes.
- * extending assistance to voluntary agencies using horticulture as a therapeutic or rehabilitative medium.
- * becoming involved in training for parks, recreation and sporting facilities, turf management and in amenity horticulture generally.
- * developing the Institute's library as a regional clearing house and resource centre for those working on the land. This should include teletext and viewdata facilities.
- * entering into discussions with Mount Albert Grammar School with a view to the development jointly of agricultural education and training.
- * undertaking to support with learning opportunities local Garden Centres and the Horticultural and Agricultural Service Industry.

The report recommends the following scope for the Institute's teaching programmes :

1. Crop Production
2. Amenities Horticulture
3. Adult Education
4. Voluntary Agency Support
5. Secondary Schools linkage
6. Environment Applications
7. Farming and Animal husbandry
8. Apiculture

Five specific roles are also identified as being a particular Institute responsibility :

- a. Qualifications training
- b. Innovations information
- c. Research and Development results sharing
- d. Regional resource service
- e. New entrant skills training

The Report is being viewed as a discussion document produced to facilitate forward planning. Any policy development will follow further industry-wide consultation but it is hoped that final recommendations could be implemented for 1986.

THE PRUNING OF HYBRID TEA ROSES

by

N.W. Owers

Pruning of Hybrid Tea roses should be carried out annually whilst the plant is dormant. Mid June to July is the optimum time prior to sap movement in August. The objectives of pruning H.T. roses are to:-

1. control growth and bush formation,
2. promote healthy, vigorous, abundantly flowering specimens.

To meet these criteria, pruning involves the cutting out of old, weak and dead shoots and preservation of new growth.

Tools Required

- Parrot-beak secateurs
- Pruning saw with tapered point
- Loppers - for thicker wood.

All these tools must be clean, kept sharp and properly adjusted so to ensure pruning cuts are made cleanly to facilitate healing of the wound.

New Plantings

A fairly severe pruning after planting is recommended, if it has not been done at the nursery where purchased. Remove all weak, spindly canes, and cut back each desired shoot to 2 - 3 buds approximately 150mm from the crown or base of the plant. Prune to an outside bud. This ensures good basal formation for subsequent growth habit, with low breaks (growth from buds) resulting.

The actual pruning cut is important with regard to

- a) the growth of the shoot as a result of the pruning
- b) prevention of die back
- c) the healing of the wound.

The ideal cut starts about 7mm above the base of the bud on the opposite side of the stem and slants at an angle of thirty degrees up toward the top of the bud. See diagram.

The secateurs and lopping shears must always be held in such a way as to ensure the anvil is against the part that is to be removed. By doing this any bruising from the cut will then be on the severed portion of the branch and the cut can be made closer to the desired bud.

Established Plantings

Pruning of established bushes is done in stages. When deciding what to prune, future seasons as well as the immediate one must be considered. Thus planning is of prime importance and if done properly a well balanced bush will be presented year in and out. Generally speaking moderate pruning is advised varying it in response to the cultivar, circumstance and purpose.

Annual pruning consists of the following.

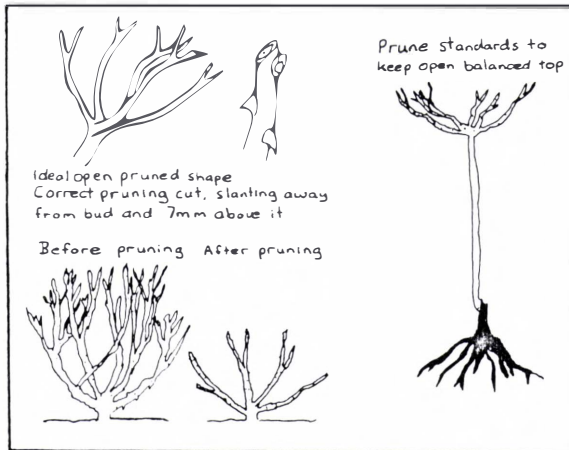
1. Remove all dead, diseased and damaged wood. For example dead or dying stubs, young unripened wood that has been frosted. All pruning cuts must be taken back to healthy wood.
2. Remove older branch systems. This vitally important aspect of rose pruning ensures rejuvenation of the bush and hence vigorous, healthy growth is promoted. If possible old wood should be removed at the crown of the plant and the new growths will form the basis of the framework. Here is where the planning factor comes in because the framework should not all be renewed in one year - if proper shape of bush is to be maintained. Any weak wood, regardless of age, should be pruned out or back to a healthy bud. 2 - 7 canes can remain after thinning out.

The growth habit of a particular cultivar needs to be taken into consideration. With weaker, less vigorous plants there is a need to retain some older wood to retain shape. As a guideline for normal vigorous cultivars, wood older than two years is rarely found on a well grown bush.

3. Shorten the length of previous year's wood which is to remain on the bush.

The height to prune depends on the age and condition of the plant. As a rule of thumb, previous year's wood, which is fresh green in appearance, should be shortened to one third - one half of their length to wood of at least pencil thickness (8 mm).

A strong, healthy bud must be chosen above which to make the pruning cut, as this will form the shoot next growing season. This bud should be outward pointing (away from centre of bush) so to ensure the bush will have an open centre. This results in a better shaped bush and aids in the reduction of disease problems with better air circulation around the plant. See diagram.



CORRECT PRUNING TECHNIQUES

Standard Hybrid Tea Roses

Pruning of these follow the same principles as the bush H.T. although these should be pruned harder so to keep the tops to a smaller size. This reduces possible wind damage. Any suckers on the standard must also be removed.

Summer Pruning and Dead-Heading

This occurs over the growing season and entails weekly checking of bushes. It results in an improved appearance and display and is a partial growth regulator.

Dead-heading means the removal of withered blooms which

- a) prevents seed production and hence encourages formation of more flowers.
- b) keeps the plant tidy.

Summer pruning refers to shortening back whole shoots to a suitable bud after flower heads have finished completely on that shoot.

CITY TREES TURN GREEN BY MISTAKE

City street lights staying on all night are having a decidedly unnatural effect on nearby trees. In brightly lit Queen Street, Auckland, normally deciduous trees in planters have turned into evergreens.

And the phenomenon is not confined just to the bright lights of Queen Street.

Throughout Auckland any tree planted near a light has become at least partially evergreen, one side remaining deciduous and the side nearest the light turning evergreen.

The trees normal cycle has become confused and they have adapted to the false environment.

But according to Dr John Considine of Auckland University's botany department, this occurrence is not a permanent state for the trees and they are merely displaying normal behaviour under the circumstances.

A particular compound - phytochrome - allows the tree to predict what is going to happen and sets in train their adaptive process, said Dr Considine.

The trees, affected by the continuous light and warmth generated by the concrete and tarseal, believe it is summer and do not shed their leaves.

PLANT PRODUCE OWN PESTICIDES

A Belgian company says it has made a breakthrough in genetic engineering that can help plants to protect themselves against harmful insects by producing their own pesticides.

Researchers implanted a gene of bacterial origin into tobacco plant cells and found afterwards the plant had produced bacillus thuringiensis proteins, acids long used in biological pesticide sprays.

10 COMMANDMENTS

FOR THE SAFE HANDLING OF AGRICULTURAL CHEMICALS

Agricultural Chemicals, especially chemical pesticides, must be inherently toxic to the pest they are designed to control if they are to be effective in their assigned job. Some of these chemicals can be injurious to man and other warm-blooded animals if misused. The term "pesticides" covers all forms of herbicides (weedkillers), insecticides and fungicides.

If improperly handled, chemical pesticides can permanently disable or even kill. As a result sensible caution must be exercised in the use of pesticides. Highly toxic materials are not dangerous when proper precautions are observed.

Here are ten commandments to be obeyed when handling agricultural chemicals.

1. Always read the label before using sprays, granules or dusts. Note warnings and cautions each time before opening container.

When a pesticide is offered to the consumer, accumulated safety and use information is incorporated in the label. Reading and following label instructions is the key to safe and proper use. The label should always be read before opening the container, and opened containers should be re-read before using the chemical again.

Additional use and safety information is often included in teaching bulletins about the product.

2. Keep sprays, granules and dusts out of the reach of children and pets. Store pesticides outside the home under lock and key.

Children are insatiably curious, prone to do the unexpected and haven't sufficient knowledge or experience to protect themselves, so necessary precautions must be taken to protect the young (irresponsible people are in the same category as children). Animals, of course, cannot protect themselves. To protect children and pets, agricultural chemicals should always be stored in a safe, locked place.

3. Always store agricultural chemicals in original containers and keep them tightly closed. Never keep pesticides in anything but the original container.

Pesticides, until completely used, should always remain in the original container. Pesticides should never be stored in jars, cans or other unmarked vessels - particularly those associated with human food and drink, such as soft drink bottles.

4. When directed on label, wear protective clothing and masks. Avoid inhaling dusts or sprays; never smoke while spraying or dusting.

Ingestion of toxic pesticides is accomplished by inhalation, swallowing or direct-skin contact. Inhalation or swallowing is particularly dangerous, because the toxic chemical gets into the bloodstream quickly. Skin contact, though dangerous, usually provides time for thorough washing.

If stated on the label, personnel should wear respirators and other protective clothing. Regardless of how safe a chemical might be, applicators should be fully dressed and wear a hat.

5. Wash hands and face and change to clean clothing after spraying or dusting. Wash clothing each day before reuse. Do not spill pesticides on skin or clothing. If spill occurs, remove contaminated clothing and wash skin and clothing.

Under no circumstances should a person working with pesticides eat, smoke or do anything before he has washed his hands and face thoroughly. After spraying or dusting, the applicator should bathe and put on freshly laundered clothes. Clothing worn one day, should not be worn the next, unless it has been washed.

Soap and water should be available at the loading site and on the spray rig, so that in cases of skin contact, washing of exposed areas can be handled promptly. All skin contact with pesticides should be avoided. Accidentally contaminated clothing or protective equipment should be removed immediately to eliminate skin contact with the pesticide, and should not be reused until laundered. In the event of eye contamination, flush immediately with clean water.

6. Keep pesticides away from foods and feeds. Cover food and water containers when treating near homes, livestock or pet areas.

Do not contaminate fish ponds.

Pesticides should never be stored near or with food or feeds. In treating dwellings, animal barns and shelters, all food and food containers should be covered or removed from the area, regardless of the toxicity of the pesticides in use.

Sprays, dusts or unused pesticides remaining in equipment or water used to rinse and clean equipment should never be pumped where puddles of liquid or piles of dust will accumulate. Such accumulations can be dangerous to domestic animals, and wildlife, and can wash into streams and ponds. Worst of all, they are tempting to children.

7. Always calibrate equipment before applying pesticides. Accurate calibration ensures safety of users, crops and the environment.

Use separate equipment for applying hormone-type herbicides to avoid accidental injury to susceptible plants.

If separate equipment is not available, equipment at hand must be cleansed well before another type of herbicide is used. After a job is completed, equipment should be cleaned before storage - the exterior, as well as the storage tanks and lines.

Hormone-type herbicides must be handled with extreme caution. Their range is so broad that they can easily damage susceptible vegetables and trees.

8. Always dispose of empty containers, so that they pose no hazard to humans, animals or valuable plants.

Leaking containers or spillage on containers in storage or operating areas should be cleaned up immediately. Liquids should be absorbed with sawdust or clay, swept up and buried. In spills of highly toxic pesticides, technical advice should be obtained to determine detoxification method.

Empty pesticide cans or drums should be washed out, punctured, burned until all the paint has been removed, crushed and buried in a safe place away from water supplies. Glass containers should be washed out, rinsed, broken and buried away from water supplies. Empty bags should be burned in a safe place so that smoke does not contaminate people, animals, crops or dwellings. The ash should be promptly buried.

9. Observe label directions and cautions to keep residues on edible plants within legal limits.

Before using pesticides, read the label to make sure the correct material and proper dosage have been selected for the specific crop and pest. Be certain that timing of the application conforms with established residue tolerances, the proper stage of plant growth, and withholding periods.

Treatment should be done in the morning or evening, during the time of least air movement, or on still days, to permit accurate application, eliminate waste and prevent drift to adjacent crops, pastures, livestock, dwellings, workers, streams or ponds.

10. If symptoms of illness occur during or shortly after spraying or dusting, call a physician or get the patient to a hospital immediately.

Growers and commercial operators regularly using pesticides should inform a local physician or hospital if they are using highly toxic materials, and should arrange for regular medical check-ups for all personnel.

If, after taking all precautions, exposure occurs and an operator becomes ill, give first aid immediately as directed on the label, and rush him to a doctor or hospital. The patient should not be allowed to 'sit in the shade' or to go home alone.

11. Remembering these commandments when using agricultural chemicals could save life.

Anyone using pesticides should know the materials he is using, and, above all, should exercise caution in their use. Some chemicals that kill pests could also affect you.

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