

Horticulture

in New Zealand

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



22

Summer 1981-82

HORTICULTURE

IN NEW ZEALAND



BULLETIN OF THE ROYAL NZ INSTITUTE OF HORTICULTURE
NUMBER 22, SUMMER 1981-82

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ROYAL NEW ZEALAND INSTITUTE OF HORTICULTURE (INC)

Patron : His Excellency the Governor-General, Sir David Beattie

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The Editors welcome articles, letters and news items for
consideration for publication. Post to P.O. Box 12, Lincoln
College, Canterbury.

Views expressed are not necessarily those of RNZIH.

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~ Editorial ~

This issue of the Bulletin sees the beginning of a specially prepared section for students. The National Executive considered several proposals for meeting the particular needs of students and more precisely those students, over 900 in total, who are currently taking the Institute's examinations.

For reasons of economy, the Executive decided to publish the students' section with the members' Bulletin. The added advantage of this is that we are all students at heart and hopefully most of the information will be of interest and value to all members.

The editor of the students' section, Mr Merv Spurway, is himself a student with 16 of the 19 subjects for the NDH (Nursery Management) completed. We wish him well in his final subjects, and in his new editorial role.

.....

Rising costs and inflation are the bane of our existence. In October the Chairman of the Examining Board and I wrote to all members of the Board and of the Executive recommending that the December meetings be cancelled. In the event, the December Examining Board meeting will be held, but at the February meetings consideration will be given to holding only three meetings each year as an economy measure. Consideration will be given to the setting up of a Support Committee to deal with urgent matters which need not necessarily wait for a full Executive or Board meeting for a decision to be made.

Whenever an agenda of either meeting requires an overnight stay in Wellington, the cost of this will be considerably less than the cost of air travel.

.....

The "Beautify New Zealand" proposal of Government which was announced by the Prime Minister in October is very much in the forefront of all organisations connected with the environment. Such organisations as the Dept. of Lands and Survey, the Ministry of Works and Development, the NZ Institute of Landscape Architects, and the NZ Institute of Parks and Recreation, will be particularly involved with planning and organisation. When we have more information your Executive will be offering whatever assistance and expertise we can in support of the scheme. Members will be given progress reports from time to time.

.....

May the festive season be a happy one and may peace and prosperity be with us all in the New Year.

J.O. TAYLOR,
Chairman,
RNZIH National Executive.

RULES OF THE ROYAL NEW ZEALAND INSTITUTE OF HORTICULTURE
(INCORPORATED)

(Registered under "The Incorporated Societies Act, 1908")

As adopted on 1 March 1975, and incorporating Amendments passed on 1 May 1976, 30 March 1978 and 24 May 1980.

NAME

1. The name of the Institute shall be "Royal New Zealand Institute of Horticulture (Incorporated)" (hereinafter called the "Institute").

The registered office of the Institute shall be in such place in New Zealand as the National Executive of the Institute shall from time to time decide upon.

OBJECTS

2. The objects of the Institute shall be :
 - (a) To encourage, foster and improve every branch of horticulture.
 - (b) To assist and promote horticultural education in every way possible. To conduct examinations, award certificates and diplomas under the Royal New Zealand Institute of Horticulture Act, 1953, and Amendments.
 - (c) To provide and encourage the protection and preservation of the flora indigenous to New Zealand and notable exotic trees.
 - (d) To accept appointment and act as trustee for any fund or real or personal property given or bequeathed to the Institute or any other person or bought for the furtherance of the objects of the Institute or any of them.
 - (e) To be the organisation to represent the whole of horticulture in New Zealand in horticultural matters, both professional and amateur, where a national body is required to concern itself for and on behalf of horticultural organisations.
 - (f) To carry out arrange for or assist any object or objects which come within the scope of horticulture in its widest sense including forestry or agriculture.

MEMBERSHIP

3. (a) Any person or incorporated company, society, association, firm or body may become a member with all the rights and privileges thereof who accepts the objects and rules of the Institute, is approved by the National Executive and duly subscribes to its funds.

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There shall be several classifications of membership and the term "member" shall herein apply to all classifications unless specifically defined.

(b) Associates of Honour :

- (i) The title of Associate of Honour may be conferred only on persons who have rendered distinguished service to horticulture.
- (ii) The annual procedure for electing Associates of Honour shall be :
 - (a) Nomination by National Executive, District Council or by an elected Associate of Honour.
 - (b) Consideration of all nominations received by the National Executive.
 - (c) The National Executive shall elect and notify not more than three Associates of Honour, two Executive Meetings prior to the Annual General Meeting, to permit presentation of the Awards to the recipients at the ensuing Annual General Meeting.
- (iii) The number of Associates of Honour shall not exceed sixty at any one time.
- (iv) A suitably inscribed Certificate shall be prepared and presented to each person elected an Associate of Honour.
- (v) Associates of Honour shall be entitled to use after their names the words "Associate of Honour of the Royal New Zealand Institute of Horticulture, Inc." or the distinguishing letters "A.H.R.I.H." and shall have all the rights and privileges of members of the Institute subject to rule 8(d).

(c) Honorary Members :

Persons who have rendered special services to the Institute, or who for other reasons are deemed worthy of particular recognition, may be made honorary members with all the rights and privileges of members subject to rule 8(c), and if already members be granted honorary membership according to the status held.

Any member may suggest to the National Executive direct or through a District Council the name or names of any person or persons considered suitable for the honour, but no one shall be elected an honorary member except at the Annual General Meeting of Members.

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(d) Fellows :

- (i) Fellowships shall be conferred upon those persons who by their activities or interest in or, service to horticulture in the opinion of the National Executive render themselves eligible for election to the status of a Fellow.
- (ii) Fellows shall be elected only by the National Executive on the nomination of the National Executive or a District Council and shall have all the rights and privileges of members of the Institute subject to rule 8(a).
- (iii) The number of Fellows of the Institute at any one time shall be limited to five hundred or such other number as the National Executive may from time to time decide upon.
- (iv) Fellows shall be entitled to use after their names the words "Fellow of the Royal New Zealand Institute of Horticulture" or the distinguishing letters "F.R.I.H."
- (v) A suitably inscribed Certificate shall be prepared and issued to each person elected a Fellow.

(e) General Members :

All members of the Institute not otherwise specifically designated shall be styled "General Members" and shall have rights and privileges of members subject to rule 8(a) herein.

All students registered for examinations in the various courses of the Institute, shall be required to become "General Members" of the Institute upon registration and to remain members until graduation. They shall have rights and privileges of members subject to rule 8(a) herein.

All "General Members" whose annual subscriptions as specified in rule 8(a) herein, have lapsed shall be liable to a rejoining fee on renewal of their membership.

ADMINISTRATION

4. The administration of the Institute shall be vested in :

- (i) An Annual General Meeting of Members as provided for under rule 9.
- (ii) A duly elected National Executive of the Institute, herein called the "Executive".
- (iii) Special General Meetings of members held in accordance with Rule 10 herein.

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EXECUTIVE AND OFFICERS

5. (a) The Officers of the Institute shall consist of the following who shall be elected at the Annual General Meeting of Members unless otherwise provided.
- (i) Patron (who shall have no voice in the affairs of the Institute).
 - (ii) Vice-Patron (who shall have no voice in the affairs of the Institute).
 - (iii) President who shall be nominated by the Executive.
 - (iv) Vice-President who shall be nominated by the Executive.
 - (v) Chairman who shall be nominated by the Executive and upon his election shall become a member of the Executive; he shall not be elected annually but shall hold office for a term not exceeding three years provided however that a retiring Chairman shall be eligible for re-election for a further term, but not exceeding in all the continuous period of six years. A former Chairman shall be eligible for election again provided there has been a lapse of at least one term since he last held office.

The Executive shall have power to fill a vacancy in the Executive and in the Offices of President, Vice-President and Chairman caused by death or resignation or other cause and such appointee shall hold office for the remainder of the term of office of the person whose place he is appointed to fill.

- (b) The Executive shall consist of the Chairman elected under clause 5(a) and eleven Members duly nominated and elected at the Annual General Meeting of Members for a term of three years. Election to the Executive shall be carried out by means of a postal vote by members.
- (i) A person standing for election to the Executive must be proposed and seconded by members of the Institute. Such nominations must be signed by the person proposed signifying his eligibility for and his acceptance of nomination and his willingness to serve on the Executive for a period of three years.
 - (ii) All nominations for the Executive shall be in the hands of the Secretary two calendar months before the date of the Annual General Meeting of Members.
 - (iii) All nominations for the Executive shall be circulated to all members of the Institute at least thirty days prior to the date of the Annual General Meeting and all voting papers

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must be in the hands of the Secretary ten clear days before the date of the Annual General Meeting of Members at which the election is to take place.

- (iv) Each year four Executive Members shall retire from office by rotation, the order of retirement being determined by ballot if necessary. Retiring Executive Members shall be eligible for re-election.
- (c) The Chairman of the Executive shall preside at all meetings of the Executive. In the absence of the Chairman the Executive shall appoint a Chairman who shall preside at such meeting. The Chairman shall have a casting as well as a deliberative vote. At all meetings of the Executive each member personally present shall have one vote. Proxies shall not be accepted.
- (d) The Executive shall have power to suspend for any term or to expel any Officer or Executive Member if such suspension or expulsion is deemed to be necessary in the best interests of the Institute, without having to publicise its reasons for so doing, by a vote of not less than two-thirds majority of those present and eligible to vote at any meeting of the Executive.
- (e) Any member of the Executive failing to attend at two consecutive meetings without a sustained apology or without leave being first obtained from the Executive, shall cease to be a member of the Executive.
- (f) The Executive shall hold not less than two meetings in each year.
- (g) At all meetings of the Executive six members attending personally shall form a quorum.
- (h) Not less than ten days' notice in writing shall be sent to each member of the Executive of the holding of an ordinary meeting, but an emergency meeting may be summoned at shorter notice by the Chairman; notwithstanding should all members of the Executive entitled to attend agree to dispense with such notice a meeting may be held and shall not be deemed to be invalid on the ground that the required notice has not been given.
- (i) A Secretary shall be appointed by the Executive, at a remuneration and on terms to be fixed by the Executive.
- (j) The Secretary shall give one calendar month's notice of his resignation and shall receive the same notice in the event of his discharge; but he shall be liable to instant dismissal, if so decided by a majority of not less than three-fourths of the members of the Executive present, for neglect, incompetence, fraud or other sufficient reason. Any notice given by or to the Secretary under this rule shall be given in writing to or by the Chairman or the Executive.

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- (k) A qualified auditor shall be elected at the Annual General Meeting of Members for the ensuing year; his remuneration shall be agreed upon by the Executive and the auditor so appointed. The Executive shall have power to fill any vacancy in the office of auditor.
- (l) The Executive may, in its discretion, engage any person or persons to perform any work which the Executive may consider of benefit to the Institute, and shall fix the remuneration (if any) of such person or persons.
- (m) The funds and property of the Institute shall be vested in the Executive and shall be invested and/or expended in such manner as the Executive may direct. All investments of funds shall be approved Trustee investments.
- (n) The Executive, at its discretion and having regard to the financial position of the Institute, may contribute from the General Funds of the Institute to the expenses incurred by Executive Members in connection with attendance at meetings of the Executive.
- (o) All cheques drawn on behalf of the Executive shall be signed by such persons as the Executive shall from time to time determine.
- (p) Notwithstanding anything herein contained the Executive may from time to time borrow money with or without interest thereon, and if required so to do, arrange for security therefor over the Institute's assets or any part thereof; and for any of the purposes aforesaid may execute such deed or documents, containing all such covenants, conditions and stipulations as the Executive may think fit.
- (q) The Executive may purchase or take on lease or otherwise acquire any real or personal property, or spend moneys in the erection or alteration of buildings, which the Executive may think necessary or expedient for the purposes of the Institute, or advantageous or beneficial to its members.
- (r) The Executive shall arrange to be held annually or at such times as considered appropriate a public meeting at which a guest speaker will deliver an address on an approved horticultural topic, to be known as the Banks Memorial Lecture.
- (s) The Executive shall arrange to be held at such time and place as considered appropriate a conference of members for the purpose of consideration of matters of national horticultural significance as defined within the objects of the Institute.
- (t) The Executive shall be responsible to each successive Annual General Meeting of members to ensure that appropriate action is taken on decisions and recommendations passed at a General Meeting of members.

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- (ii) The Executive shall encourage the formation of new District Councils and shall encourage existing District Councils in their work, in accordance with the provisions of Rule 13 herein

DISPOSITION OF PROPERTY IN THE EVENT OF WINDING UP

6. In the event of the Institute being wound up, any surplus assets after payment of all liabilities and liquidating fees shall be disposed of among such organisations having similar objects to those of the Institute as have been accepted by the Commissioner of Inland Revenue as being charitable. The decision as to which such organisation or organisations shall receive the surplus assets of the Institute shall be made at a meeting of the Executive held for that purpose.

COMMON SEAL

7. The Seal of the Institute shall be in the custody of the Secretary and shall be affixed to documents only by the direction of the Executive, and shall be attested by the signatures of the persons appointed by the Executive for the purpose. A register containing a list of all documents sealed shall be kept by the Secretary.

SUBSCRIPTIONS

8. (a) Fellows and General Members shall pay an annual subscription of an amount which shall be fixed at a General Meeting of Members and except for the official Journal shall receive the periodic publication of the Institute.
- (b) Societies, Associations, Companies, Corporations, Firms and other bodies shall pay an annual subscription of an amount which shall be fixed at a General Meeting of Members and shall receive the official Journal and periodic publications of the Institute.
- (c) Associates of Honour shall receive the periodic publications of the Institute, except the official Journal, without payment of an annual subscription.
- (d) Honorary Members shall not be required to pay an annual subscription and shall receive the periodic publications of the Institute except the official Journal.
- (e) The Institute's financial year shall commence on the first day of January each year.
- (f) The Secretary shall keep a complete and up-to-date roll of members of the Institute.
- (g) Any member shall be entitled to withdraw on giving notice prior to the date on which renewal of the membership subscription falls due provided that all moneys due by him have been fully paid.

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- (h) Any member failing to pay his annual subscription within twelve months of the due date may be given one month's notice to pay the same in default of payment of which his membership may be cancelled and if after the expiry of such notice such annual subscription shall still remain unpaid then such member's name may be taken off the roll of members; but this shall not free such member from liability for the payment of all moneys due to the Institute at the date his name was removed from the roll and any moneys so owing may be recovered in any Court of competent jurisdiction.
- (i) Subscriptions shall be paid annually to the Secretary of the Institute. The Secretary shall provide a list of members who reside in a district where a District Council operates and meets regularly at least four times each year to the District Secretary for the purpose of capitation payment to the District Council. The rate of capitation payment to District Council shall be fixed at a General Meeting of members.
- (j) Special rates of subscription may be fixed for the joint membership of husband and wife.

GENERAL MEETINGS

- 9. (a) A General Meeting of Members shall be held annually at such place as the Executive may direct.
- (b) A quorum shall consist of fourteen members of whom not less than four shall be members of the Executive.
- (c) Voting shall be by voices or on a show of hands; each member shall have one vote. Proxies shall be accepted on the appropriate form. All such proxies must be notified to the chairman at the commencement of the meeting. Notwithstanding, a ballot may be demanded by any members entitled to vote, provided that such demand is supported by not less than one-third of the members present and entitled to vote. Any member who is unfinancial shall not have power to vote. A member shall be deemed unfinancial if his current subscription is unpaid within three months of the due date.
- (d) The Annual General Meeting shall be held not later than the end of May each year and notices of business for consideration must be sent to the Secretary not later than 15th February each year.
- (e) The Executive shall have prepared for each Annual General Meeting a report of the general business transacted during the past year together with an Annual Statement of Accounts and Balance Sheet of the Institute duly audited.
- (f) The Secretary shall give not less than six week's notice of the date of the Annual General Meeting to all members. The Annual Report, Annual Statement of

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Accounts and Balance Sheet and a notice of all business which it is proposed to lay before the Meeting shall be notified to all members at least fourteen days before the Meeting.

- (g) The business of the Annual General Meeting which shall take precedence over all other business shall be to receive the Annual Report, Annual Statement of Accounts and Balance Sheet, to receive reports from District Councils, remits and recommendations from District Councils and members, the election of Officers and Executive in accordance with the provisions of Rule 5, to elect an Auditor and to consider all further business of which proper notice has been given in accordance with these Rules.

SPECIAL GENERAL MEETINGS

10. A Special General Meeting of members shall be called upon instruction from the Executive or upon receipt of a requisition setting forth the object of such Special General Meeting signed by ten Members. Copies of the Notice of Meeting and the Agenda Paper shall be circulated to all members at least seven days before the date fixed for a Special General Meeting and no business other than that contained in the Agenda Paper convening the meeting may be transacted at the Meeting.
11. The President or in his absence the Vice President or in the absence of both the Chairman of the Executive shall preside over General Meetings of Members. In the event of the President the Vice President and the Chairman being absent the meeting shall appoint its own chairman. The chairman shall have a casting as well as a deliberative vote at all General Meetings of Members.

ALTERATION TO RULES

12. The Rules of the Institute shall not be added to or altered except at an Annual General Meeting or at a Special General Meeting of Members convened for the purpose. Notice of any proposed alteration or addition to the Rules must be forwarded by the Secretary to each Member of the Executive at least fourteen days before the date of the meeting at which such proposed alteration or addition is considered.

Every variation or amendment to the Rules pertaining to the Objects (Rule 2) or the Winding up (Rule 6) or the Alteration to Rules (Rule 12) shall be first referred to and approved by the Commissioner of Inland Revenue.

DISTRICT COUNCILS

13. District Councils comprising members of the Institute may be formed in localities approved by the Executive upon the application in writing from not fewer than twelve members of the Institute domiciled within the locality concerned.

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The aims and objects to be adopted by District Councils shall conform as closely as possible to the aims and objects of the Institute.

The terms and conditions upon which a District Council shall operate shall be agreed upon between the members and the Executive at the time of application and no group of members may designate itself a District Council nor take the title "Royal New Zealand Institute of Horticulture" in any form whatsoever except with the consent and approval of the Executive being first obtained in writing.

EXAMINING BOARD

14. The Examining Board shall be appointed annually by the Executive and approved by the Minister of Agriculture & Fisheries in terms of the Royal New Zealand Institute of Horticulture Act 1953 and Amendments thereto.

1982 RNZIH AGM & CONFERENCE

This will be held in Hawera in May (7th to 9th), and although registration form and full details will appear in the next Bulletin, the South Taranaki District Council has very kindly provided the following information about accommodation so that members wishing to book early may do so :

ACCOMMODATION IN HAWERA :

AVON LODGE MOTELS : Single \$19.00, Double \$26.00,
plus \$5.00 each additional adult.

MT. VIEW MOTELS : Single \$18-20.00, Double \$22-27.00
plus \$6.00 each additional adult.
Children under 12, \$14.00.

REMBRANDT MOTELS : Single \$21.00, Double \$26.00, Large Double \$28.00
\$6.00 each additional adult.

CENTRAL HOTEL :

Single with facilities	\$19.00
Single with no facilities	\$12.50
Twin with facilities	\$26.00
Twin with no facilities	\$19.50
Double with facilities	\$25.00
Double with no facilities	\$19.00

DOMINION HOTEL : Single \$12.00, Twin \$19.50, Double \$21.00

FURLONG MOTOR INN : Single \$25.00, Double \$30.00, Triple \$35.00
Extra adult - \$5.00

WHITE HART HOTEL : Per person per night \$10.00
Bed and breakfast \$13.50

KING EDWARD PARK CAMPING GROUNDS :

Caravans without power	\$3.50 per night	(\$21.00 per week)
Caravans with power	\$5.00 per night	(\$30.00 per week)
Cabins - 2 persons	\$10.00 per night	(\$60.00 per week)
Extra adult	\$2.00 per night	(\$10.00 per week)
Extra child	\$1.00 per night	(\$5.00 per week)

(These charges could be subject to alteration.)

A TRIP TO HOLLAND, TO SEE

FLORIADE 1982

The International Horticultural Show will be held in Amsterdam again in 1982, and Floriade 82 promises to be a wonderland of all things bright and beautiful.

The Show will be opened to the public on 8th April 1982 but preparations are well under way and the contours of Floriade are already excitingly visible. The territory is a 54 ha. stretch of land in the south-eastern part of Amsterdam, bordering an enormous artificial lake, the Gaasperplas. From this lake, riverlets and canals sneak across the fields and this once bleak and barren area has been transformed into a typically Dutch scene.

Normally speaking, it would take something like 20 years to create a fully grown park, yet after only 5 years of intensive work and every trick of the trade, Floriade will open its gates to reveal an established park. The Dutch have once again proved their green fingers, and tall, mature trees have successfully been uprooted and transplanted and have now completed their second year of healthy growth in this new earth.

Floriade already boasts 396 apple, 91 pear and 30 plum trees, and many more to come. In the fruit orchard the new multi-row system is being implemented. The trees are planted in two-, three-, or five-row systems and thus will yield more fruit in a shorter space of time. This system is new even to most fruit-farmers.

A special feature at Floriade will be the reed- and willow-shoot cultures. This type of vegetation was once very common in Holland and extremely useful, but today has almost vanished.

Fields of colourful flowers will give way to a dune valley with a rich variety of dune-flora. A 350 sq.m. rock garden will offer many gems, including the incredible "breakstone". Nearby will be a mini marshland with marsh cypresses, and a perfumed rose garden.

The bee garden will make it possible for visitors to study these busy creatures closely. As well as these outside attractions, the hot-house and indoor exhibitions will certainly impress. An 8000m² hall in the centre of the park will house changing displays of flowers, plants and vegetables.

An electric train will tour around Floriade, and there will be a boat cruise on the lake. A restaurant and Reading Garden will also cater for differing needs.

The International Horticultural Show will last throughout the Spring, Summer and Autumn of 1982, and each season will make its own particular contribution to the glory and magic of the park. There could hardly be a more ideal occasion to visit Amsterdam and benefit from that legendary Dutch flower power than during Floriade 1982.

Editor's note : if RNZIH members are interested in further details please contact me. A group might like to get together and travel at discount rates. B.McC.

WEST AUSTRALIAN NUT & TREE ASSOCIATION

The first Australasian Conference on Tree and Nut Crops (ACOTANC-1) will be held at the University of Western Australia, Perth, on May 12 - 14, 1982. It is anticipated that the first day will be taken up with specialist sessions on individual crops, while the last two days will cover more general matters.

The title of the Conference will be : "The 3rd Component" - the role of tree crops as the third element of agricultural land use, in conjunction with stock raising and field crops. It will seek to bring out the importance of tree crops as a vital component of an integrated approach to land use, with special emphasis on avoiding problems such as soil erosion and salting-up, and on designing crop combinations to fit in harmoniously and efficiently with geographic and climatic environments of the Australasian Region.

Anyone wishing to be kept informed of details of the Conference as they become available should send their name and address to :

ACOTANC-1, P.O. Box 27, Subiaco, WA 6008, Australia.

Offers of papers to be presented are invited. Some overseas speakers are to be invited, but anyone from overseas who could arrange to be in Perth at the time of the Conference is especially encouraged to offer papers.

LODER CUP (1981)

The Loder Cup for 1981 has been presented to Mr Raymond Mole of Wellington for encouraging the use and cultivation of native flora throughout New Zealand, and particularly in Wellington. Since 1962, Mr Mole has been Curator of the Otari Native Plant Museum and has given many public lectures and written articles on the value and versatility of native plants. Mr Mole has also given impetus to the development of walking track systems.

The presentation of the Loder Cup was held in Wellington on 27th October, hosted by Wellington's Mayor, Sir Michael Fowler.

The first speaker, Mr Keith Lemmon, spoke about the background of the Loder Cup, of its presentation to the people of New Zealand by Gerald W. Loder (later to become Lord Wakehurst of Sussex) for award annually 'to encourage the protection and cultivation of the incomparable flora of the Dominion'.

The Hon. Duncan MacIntyre, Minister of Agriculture and Fisheries, made the presentation. In his reply, Mr Mole thanked everyone who had helped make this award possible. Among those present was a previous holder of the Loder Cup, Miss Nancy Adams, well known botanical illustrator with several books to her credit.

Our congratulations to Mr Mole on this Award.

FURTHER AWARD TO LANCE MCCASKILL

Our esteemed member, Dr L.W. McCaskill of Christchurch was recently recognised for his life-long contribution to nature conservation by the International Union for Conservation of Nature and Natural Resources.

The citation from Mohamed Kassas, World President of IUCN included the following statement :

"Dr L.W. McCaskill, elected for the position of Honorary Member of IUCN by the membership assembled at the 15th General Assembly of IUCN held in December, New Zealand, October 11th - 23rd, 1981."

The Award is made to a very limited number in recognition of outstanding contributions to conservation and for significant services to the IUCN.

The citation concluded by stating "in recognition of the effective work you have done to make this world better for this and future generations."

On behalf of all members of the Institute we extend congratulations to Dr McCaskill.

BOOK REVIEW

"The Collingridge Guide to COLLECTOR'S ALPINES - their cultivation in frames and alpine houses." NZ \$ 67.50

The reprint of Mr Royton Heath's 1964 classic "Collectors' Alpines" is both timely and welcome coinciding as it does with the universal upsurge of interest amongst world gardeners in the growing of plants from the world's higher regions. For the keen gardener this book has over the years become almost a necessity dealing as it does so comprehensively with the cultural needs, propagation, seed and potting composts and horticultural requirements of nearly 2,000 plants.

Whilst the excellent line drawings remain unaltered from the first edition, the extensive use of completely new photographs, both black and white and colour, makes for great ease and accuracy in the identification of the selected species and varieties and they are an invaluable aid to the clear text descriptions.

Gardeners keen to keep abreast of contemporary botanical thinking will appreciate the inclusion, in appendix form, of plant name changes since 1964 but may well be frustrated in attempting to purchase cures for their plants' ills. A number of chemicals recommended are unavailable in NZ., others appear to have a more restricted circulation here than in the UK., while Nicotine products in any form have been withdrawn from the NZ market for some years.

Because of the exchange rates, it would appear the cost of this book to NZ alpine gardeners will place it amongst the more expensive text books; those extending themselves however can be assured this handsome, well produced reprint will not only look well on their bookshelf but that its authoritative text is unlikely to be superseded for many years.

- D.D. Riach, Christchurch

DISTRICT COUNCIL NEWS

AUCKLAND :

On MONDAY 22 February 1982, a wine and cheese evening will be held to open the year's activities, starting at 7.45 pm in the Mangere Central Hall. Special guests will be delegates to the Institute of Parks and Recreation Administration Conference. There will be displays of seasonal flowers and plants - speakers to be arranged.

An effective method for collecting seeds from clustered heads is just after pollination and before the seed is dry, to enclose the whole head in an old nylon stocking. Tie the stocking securely close to the head of seeds: air can then circulate and help the drying; once the seed is fully ripe and starting to drop, cut the stem and hang the whole head, stocking and all, upside down in an airy dry spot. When all the seed has fallen, empty on to flat trays or into jars. Don't forget to label and date.

When a grain of wheat is inserted in the split end of a cutting on planting, the hormone auxin stimulates root formation in the cutting. Perhaps our ancestors didn't know why this worked, but it is still effective.

CANTERBURY :

The presentation of Diplomas, Certificates and prizes to Canterbury students was held on July 21. Following the presentation Mr George Malcolm, Inspecting Landscape Architect for the M.O.W.D., gave an extremely interesting and illustrated talk about the history and work of the Landscape Section of the MOWD. Slides of early work at Benmore Power Project showed the original landscape development. Recent slides provided a series of views of the developing landscape.

One Saturday in September members met at the Botanic Gardens and travelled by car pool to three areas. At South Brighton Surf Club Warwick Scadden, Landscape Architect with the Christchurch City Council, explained the work. Sand dunes, particularly the foredune, protect the land areas behind. Blowouts in the sand dunes have occurred for years but little had been done to prevent this. Blowouts allow sand to move inland, covering and blocking roads and creating large clean-up operations.

Recent work included fencing off sensitive dune areas and construction of a boardwalk to the beach. Further reclamation work is being carried out with more fences and dune planting. A side benefit is easier access to the beach for handicapped and elderly people.

At Burwood Hospital Des Riach, Superintendent of Grounds for the North Canterbury Hospital Board, explained recent developments. Future plans will make this the largest hospital under the Board's control.

Recent landscaping centres around the new Spinal Unit where a good range of plants were seen. Problems of retaining existing

trees, open space in an area of intense development, and landscaping over underground services, were discussed. The outdoor facilities for recreation include an artificial bowling surface, basketball/netball courts, 100 metre track and archery lawn.

At Horseshoe Lake Reserve, Walter Fielding-Cotterell, Arboriculturist with the Christchurch City Council, explained the history and development. This Lake Reserve is about 33 hectares of land and water. Willows, said to have grown from survey pegs, cover the Reserve. Before development, trees covered much of the water and had to be cleared. Working with the Drainage Board, the Lake was cleaned of debris and some banks built up. Other areas were left alone. Walking tracks and picnic areas are the main developments. Much of the remaining area is an excellent wildlife area. In a very short time Horseshoe Lake has become a Reserve which can offer an environment entirely different from regular parks. (See Bull*16)

WELLINGTON :

The Wellington District Council has held monthly meetings for students since May. These meetings were intended to assist NDH students by providing information from a range of topics, and included a tour of the Botanic Gardens.

The students came mainly from MOWD and Local Authorities in the region, and considerable voluntary time was given by Joanne Deans, Bob Lowe, Rob Lucas, Brian Pollock, Donal Duthie and Mick Reece in conducting the programme. An average of 15 students attended, and the Wellington secretary, Diane Menzies, would like to hear from students, who either attended the course or are interested in such a programme in 1982, so that a decision can be made as to whether the programme should continue unchanged or with a different format.

In our July meeting Mrs Winsome Shepherd, a researcher for the Historic Places Trust, spoke about the introduction of plants to the Wellington area by the early settlers. Her talk covered the period 1840-65, by which date a wide range of plants had been introduced and grown in the Wellington region. Mrs Shepherd said that early settlers were advised before leaving Britain to bring seed of oats, wheat and barley with them. She noted that within a few months of landing here that garden seed was available and the first fruit trees were introduced into the area by John G. Wade on 13 February, 1841.

Various methods were used to transport live plant material to this country and of the earliest recorded methods used some plants were sent to New Zealand by Warden Case, with native plant material going back on the return journey. Another method was to use a zinc lined case with damp moss or soil inside for hardwood cuttings such as roses, and budwood of fruit trees, plus seeds - often germinated by the end of the voyage. One Canadian immigrant nursed an open box of cuttings of geraniums, lavender, roses, fuchsias, jasmine and strawberries 'stuck into whole, large potatoes'. She arrived here and her cuttings surprisingly survived the journey and grew. Seeds of course were brought in, especially pip and stone fruits, and this accounts for the wide variety prevalent in the country.

AUSTRALIAN WILDFLOWER TOUR :

Before going to the first International Protea Conference at Melbourne in early October, I had the opportunity to join a pre-Conference tour of Western Australia to see the wildflowers. Spring rains, the best for five years, resulted in lush growth and lots of flowers. Our guides - local nurserymen, a botanist and an enthusiastic wildflower tour leader ensured that we saw as much as possible in the limited time available.

Highlights were : outside our motel 2m high Geraldton wax (*Chamaelaucium*) in full flower (this was at Guildford) reveiling in the soil and climatic conditions which are impossible to duplicate here; *Lechenaultia* and *Dampiera* in great drifts of stunning blues along the roadside where the grader had chopped through the roots and so propagated them; *Pimelea ferruginea* - a beautiful deep pink selection growing in Kings Gardens, Perth, appealed to me more than the lolly pink of the same species commonly grown in New Zealand; *Hibbertia* - so many species all with yellow flowers looking like *Potentilla* - but the habit of growth varied from small ground-hugging yellow flowers to large scrambling shrubs - all very free flowering and obviously most adaptable as I saw them later in very different conditions in Melbourne and Canberra and I've just bought one from Palmers! *Acacia pulchella* - a dainty wattle less than 1m high growing under trees around Perth and Canberra; prickly *Verticordia* - small shrubs with masses of flowers, several species, all good cut flowers : soft pink, yellow, bronze. They are being grown commercially in W. Australia for cut flowers for export; *Conospermum* - several species commonly called smokebush. *C. incurvum* was particularly attractive as a cut flower; *Banksia prionotes* trees about 3m high, the last of the blue orange and white flowerheads still to be seen. They were growing along the roadside, looking like street trees, but miles from anywhere; *Acacia saligna* both in the wild and making a very attractive street tree at Moora. It could be too large in our conditions of higher rainfall. An acre or more of *Scholtzia* in full flower with sheep and kangaroos grazing beneath so that the shrubs were like weeping standards. Flowers very similar to *Thryptomene*, used a lot for cut flowers and last two or three weeks with correct post-harvest treatment. *Haemionda pungens* - totally drought-resistant carpeting plant. Maybe it would be good for the Middle East but doubtful for Auckland. Orchids : *Caladenia* and *Elythranthera*, the blue enamel orchid; *Diplopeltis hugelii* like a pink *Gypsophila* and equally good as a cut flower; *Anigozanthus* species : Kangaroo paws, Catspaws, and natural hybrids between them. I'll never forget Gin Gin cemetery where these flowers and all the hairs down the flower stems glowed in the light of the setting sun. Selected hybrids of *Anigozanthus* are being propagated by tissue culture and planted 5,500 per acre to provide a quicker cashflow on large (40 ac. or more) plantings of *Dryandra*, *Banksia* and *Protea* for cutflower exports.

It was a delight in W. Australia to see so many of our wellknown garden plants growing wild : *Thryptomene*, *Hovea*, *Grevillea*, *Boronia*, *Dryandra*, *Banksia*, *Calythrix*, *Helichrysum Lhotskua*, *Hypocalymma*, *Isopogon*, *Astartea*, *Micromyrtus*, *Helipterum*, *Hardenbergia* - and so many more. The colour photos in Alex Blomberg's book "What Wildflower is that?" are better than my slides and I have been pleased to see how few of the plants illustrated from W. Australia we had missed. Talking to the nurserymen they told me of *Baeckia* "Winter Pink" a natural hybrid of *B. clavata* and *B. astardiodes* which has

AUSTRALIAN WILDFLOWER TOUR (CONT)

been propagated and is a good new garden shrub; also *Eucalyptus* 'Torwood', a hybrid which makes a good small street or garden tree.

In Canberra Botanic Garden the collection of *Boronia* species and hybrids (many with upward-facing large starry flowers) took my eye. *Boronia* 'Telopea Valley Star' was outstanding. Maybe *B. repandra*, *B. meulleri* and *B. pinnata* might not be as reliable as *B. heterophylla*, but perhaps they would be worth a try?

For years I've wanted to see the West Australian wildflowers and I was not disappointed, My only regret is that I did not allow time to go on the tour south of Perth to Albany as well as the northern one towards Geraldton. One day, maybe

P.S. I recommend the book "Australian Native Plants; a manual for their propagation, cultivation and use in Landscaping" by John W. Wrigley, pub. Collins 1980.

- Joy Amos, AHRIH, Auckland.

This article first appeared in the Auckland RNZIH Newsletter.

FELLOWSHIP AWARD

The Award of Fellow of the RNZIH (FRIH) was made recently to Mr Milford Reed of Auckland.

Mr Reed's interest in horticulture began with membership of the Lily Society (1950), then Carnation and Gerbera Society, Fuchsia Society, House Plant Society (President for a term), and RNZIH Founder member and President (5 years) Meadowbank Beautifying Society, Founder and first President of the Auckland Herb Society. Mr Reed served as delegate to the Auckland Horticultural Council on the Executive and as President for a term, then their secretary-manager, and now a Life Member.

Mr Reed worked at Ellerslie Racecourse gardens from 1956, and in 1968 moved to the Cornwall Park Trust Board nursery, later becoming their manager.

Mr Reed has always provided valuable liaison between the Auckland District Council (RNZIH) and other societies and clubs in the area. It is due to his contacts that the Auckland District Council is able to continue to train show judges (in conjunction with the Auckland Horticultural Council.)

Our congratulations are extended to Mr Reed on this award.

Ivy

(The second article in a series by Mr J.B. Laurenson)

PROPAGATION AND CULTIVATION

Ivies may be grown very readily from cuttings, preferably from soft wood, in the spring or early summer. The more variegated they are, i.e. the less chlorophyll in the leaves, the more difficult they are to strike. The most reliable method for the difficult ones is layering.

Cuttings may also be grafted at almost any time of the year. A glasshouse or frame will assist propagation whether by cuttings or grafts. Covering with plastic bags will ensure a good take. A mist propagator is the ideal where leaf bud cuttings may be grown readily.

Aerial roots have been found of no benefit in striking cuttings, but they may assist in layering. Cuttings rooted in water often do not transfer to soil.

The hederas have a great propensity to sport, which accounts for many of the new varieties. The sports, however, often revert to the original. When propagating a special variety, the material should be taken from the part of the plant showing the required features. Sports require growing for several years before they can be regarded as "fixed".

Some varieties are slow to get away. In fact it has been said that the

1st year they sleep,
2nd year they creep,
3rd year they leap.

Rich soil is not necessary whether grown outside or as house plants, but light dressings of nitrogenous fertiliser will preserve the sheen of green types. Rather poorer soils are preferable, especially for the variegated types which tend to lose the variegation if treated too well. Conditions too warm or too shady also cause them to revert to plain green. The addition of chalk or lime is said to improve variegation. Grown in cool conditions the internodes are shorter, the growth is denser and the variegations are preserved.

It is a mistaken idea that ivies require moisture. They really prefer soil on the dry side, particularly in winter. In their natural state, they are attracted to shady, humid conditions rather than to damp ground.

Ivies growing outside are often neglected and after a few years become untidy and unattractive. Early spring is the time to trim back and brush out all dead and discoloured leaves.

CONDITIONS UNDER WHICH IVIES FLOWER AND SET SEED.

As long as there is some support for ivies to continue growing upwards, they will retain the climbing tendency. It will be observed, however, that when they reach the top of the support, whether it be a low wall, a tree or a high tower, the branches do

IVIES (CONT)

not continue growing upwards into space but assume a horizontal habit. The form of the leaves changes also from many to one lobe. The change takes place gradually, several different leaf forms appearing in the process. From the horizontal branches, upright growths appear at the leaf axils and these develop an arborescens or tree form with single-lobed leaves, from which eventually develop flower and fruit. The flowers are usually yellow and the fruit or seeds, according to variety, vary in colour from yellow and orange to dark brown and black.

If however a further support is provided for the ivy to continue climbing upwards the arborescent growths will revert to their original climbing habit. More often, rather than further support being provided for these growths, they are trimmed off and never given the opportunity to demonstrate the flowering state. This is a very slow process, perhaps up to ten years being required, so that in cultivation flowers are seldom seen, except on old-established *Hedera helix* or *Canariensis* var. For this reason, there are very few recordings of new varieties appearing from seed; they have been discovered mainly as sports.

Cuttings of arborescens growth are rather difficult to root and are therefore more easily propagated by grafting.

USES OF GROWING IVY.

The first purpose which comes to mind is the covering of screens, buildings, fences, tree stumps, etc. with both the green and variegated varieties. The stems of most plants are positively phototropic, i.e. they grow to the source of light. In contrast the roots grow away from light into the soil, or are negatively phototropic. Ivies have both terrestrial or ground roots and aerial roots. These aerial roots or "claws" serve a double purpose, first as a means of support, and secondly to provide nourishment. By means of these aerial roots growing away from the light, the plants attach themselves to trees, pines, walls of brick buildings, etc. Ivies seem to prefer deciduous trees to evergreens, but in neither case do they do much damage to the host until they reach the top of the tree, when they can take over and smother it. An example of this has been seen in a native plant museum at Kauri Point, Auckland. The owner remembers many years ago an English ivy growing up a palm tree. Over the years it took possession and now stands as a large ivy tree with a substantial trunk, flowering and setting seed every year.

The possibility of ivies damaging buildings has been discussed for over a century. In the case of poorly constructed walls, the roots could penetrate the mortar and in time, force the bricks apart. However, provided the wall is well constructed, it has been agreed for a very long time, that ivy (or other climbers for that matter) covering a wall can be beneficial. It is claimed that the cover of foliage protects the wall from the rain, and what moisture does penetrate to the surface is taken up as nourishment by the aerial roots, thus keeping the wall dry. Incidentally, if an ivy which is well established on a wall is cut off at ground level, it will continue to flourish with the aerial roots. According to Hibberd, examples of this were found on old buildings in England.

IVIES (CONT)

We now come to the use of ivies for ground cover. Strange as it may seem, in their natural state, the ivies do not behave as cover plants. After the seed germinates, the small plants retain their arborescent or tree form and many are smothered by other plant growth on the forest floor. If the survivors happen to be near a tree or some form of support, then they will assume the climbing habit.

In horticulture, suitable varieties should be selected for ground cover. Fortunately these are in the majority. With some varieties however, if the growing tip is removed, all that happens is that another growing tip replaces it and it is a long time before any amount of ground is covered. So we look to the ramose or self-branching group which provides both green and variegated varieties very suitable for the purpose, and even if these are not pinched back they will quickly cover a considerable area. As ground cover, ivies are used to cover banks which are too steep to cultivate, are planted under the shade of other trees where conditions or soil are unsuited to other subjects, or they are used in public parks and gardens, perhaps as a labour-saving device. In this case, once the area is covered, all that is required is an edge trim where the ivy grows over the paths. The effect is permanent and saves replanting with flowering plants.

Another use for ivies is topiary work. The shapes of animals, birds or geometric designs are formed with wire mesh and when this is covered with growing ivy it is trimmed to the desired shape.

Hanging baskets are an obvious use for ivies, especially the small-leaved variegated types. And of course, they make excellent house plants on porches or wire supports.

The ladies will know of the uses of ivies in floral arrangements, wreaths, sprays and bouquets.

The most interesting use for ivies, however, is as standards. Originally these were merely trained on their own stocks, and this required several years and quite a deal of patience. Rochford records that in the year 1912, two brothers named Lize, nurserymen at Nantes in the south of France, were successful in crossing what we know as *Aralia* or *Fatsia* with *Hedera*. The actual cross was pollen of *Hedera hibernica*, or Irish ivy, on to *Fatsia japonica*. The result was *Fatshedera lizei*. In later years, variegated forms have appeared. With *Fatshedera*, the characteristics of the *Fatsia* leaves are largely retained, but the leaf lobes are not so pronounced or deeply cut. The *Fatshedera* is not actually a shrub and requires a support. This is now used as a stock for standards. The leafy top is removed and one or more cuttings of the desired ivy variety are applied as cleft grafts. Most of the leaves should be left on the stock to maintain the sap flow to the graft, and commencing from the base, a few leaves are removed from time to time. In about five to six weeks the graft will have taken. Pinching back a few times will soon produce a well-branched standard.

IVIES (CONT)

PESTS AND DISEASES.

There are very few worries with the ivies growing outside. Perhaps the most troublesome pest is the leaf roller caterpillar. Moths are attracted to the foliage, where they lay the eggs, and in no time the destructive caterpillars are at work. A spray with carbaryl or "sevin" will dispose of them.

It is when the plants are grown under cover that more problems are met. Brown edges to the leaves of the softer greens and the variegated types often indicate something cultural, mainly over-watering. This can also lead to sudden collapse of the plant through root diseases.

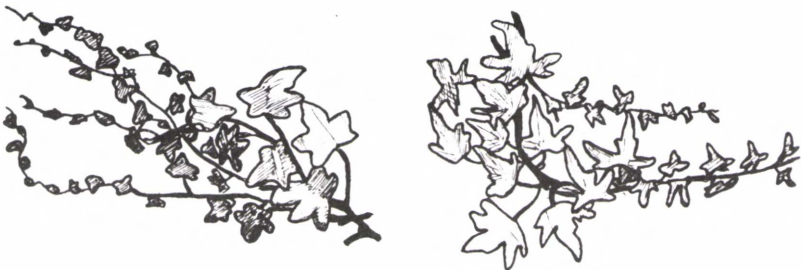
Red spider mites are one of the most troublesome pests. It is the dry warm conditions that attract them and frequent spraying with water will help to reduce their incidence. Here again, brown edges to the leaves are often an indication that red spiders are present. Webbing will be seen also on the underside of the leaves. Malathion, two sprays, not more than two to three days apart, followed by sprays at three to four weekly intervals, should control this pest, as well as Mealy Bug, which can be another problem.

Soft scale with deposits of honey dew and sooty mould often disfigure the plants. White oil with the addition of malathion is recommended to control this.

The ivies have been regarded generally, as being free of fungous and other diseases. However, recently a form of *Phyllosticta* has appeared. This is a leaf spot disease, which attacks a wide range of ornamentals and now we have *Phyllosticta hedericola*. This can be controlled with Zineb or copper sprays.

In conclusion, should you have old ivy which has really got out of hand and become a nuisance, it can be destroyed easily in the dormant stage with one of the new weedicides.

In our next Bulletin (Autumn 1982) this series will be completed with a list of Hedera varieties in New Zealand.



THE BULB MITE (*Rhizoglyphus echinopus*)

(reprinted from the Auckland Lily Society Bulletin, Sept.1981)

Very recently I have been made aware of the BULB MITE, the most destructive creature I have known to exist in our Lilium environment. I have had unfolded before me the answers to a huge number of problems which have plagued me for the past twenty years or so. Why bulbs have died out for no apparent reason; why seedlings constantly fail; why a tray of small bulbs gradually fade away to only one or two; and why they fail to make large bulbs quickly. The answer is THE BULB MITE.

This microscopic animal is so prevalent in our gardens, and so destructive to our Lilium bulbs, that I am amazed that it has not ever been given a mention in our own, or many other Bulletins.

My first information relating to the mite was received from the South African Lily Society, after their quarantine authorities had found mites amongst bulbs received from the USA. Forewarned, I made enquiries at our own Agricultural and Quarantine Depts., but the answers were very vague, and little concern was shown for the problem. However on receipt of my bulbs in South Africa, they were found to be infested with bulb mites.

Still, not having seen the mites and being totally ignorant of the damage they do, I was not greatly concerned, as it appeared that I only had to find a means of eradication of the pest from future overseas shipments.

Not so. When I began examining bulbs and the mites under my newly purchased microscope, the full magnitude of the problem assailed me. The mites were there in their thousands and the roots, basal plate and scales in many cases were completely eaten out, or badly damaged.

I now hold the view that the bulb mite is our greatest enemy, and that most problems previously associated with poor soil conditions, bad drainage and basal rot have been caused by this pests, the highest concentrations of which I found to be in containers and seed boxes two to three years old.

All Societies should view this problem seriously, and take steps to help their members to eradicate this pest which they undoubtedly would have, whether or not it is doing them serious damage.

At this time I have no answers, except that all bulbs should be soaked in a miticide recommended for bulb mite, and that all containers should be drenched by immersion in the solution for at least two hours. The South African Lily Society suggests the use of NEMACUR, which is obtainable locally, and apparently controls both nematodes and bulb mites.

- Basil G. Hayler

COVERING MORE GROUND IN THE BATTLE AGAINST WEEDS

A new publication released in Britain in October will be of interest to New Zealand and those responsible for large scale planning and planting.

This is a further part of BS 3936 Nursery stock, a standard currently being revised by BSI. Part 10 Groundcover plants, specifies requirements for plants that are suitable to be transplanted and grown close enough together to produce a dense ground cover effect that will discourage weeds.

The minimum plant and container sizes given relate to plants suitable for covering large areas, and Part 10 will therefore be particularly useful for bulk purchasers such as local authorities, landscape gardeners and architects, as well as for nurserymen. It will also be of interest to garden centres, although when planting only a small area, or when larger or more mature plants are required, reference should be made to the minimum sizes specified in Part 1 Trees and Shrubs published in November, 1980.

Part 10 is not intended to be a precise botanical specification; its aim is to reduce any misunderstanding which might arise when ground cover plants are included in an appendix, together with information about whether or not the plants may be sold from

open ground or in containers of specified minimum size, and whether the plants are deciduous, evergreen or herbaceous. The requirements are based on UK growth characteristics.

Other parts of this standard (with the exception of Part 1) are also being reviewed, and work has already started on the revision of Part 4 Forest trees and Part 5 Poplars and Willows for timber production.

Copies of BS 3936 Part 10 will be available shortly for reference in the Standards Association of NZ (SANZ) Library and may be ordered through the SANZ Sales Section. Price \$11.63 (\$15.50 to non-members) Enquiries to :

Standards Association of NZ,
Private Bag, Wellington.



AN INTRODUCTION

I have accepted the opportunity of editing this quarterly students' newsletter. The object is to provide students, whether they be Certificate, Diploma or non-examined, with information which will assist in examinations or make them simply better horticulturists.

It is planned to print items which are considered relevant, from publications, news articles, etc. Contributions in the form of articles, comments, news items or even criticisms are most welcome, and in fact necessary, for the success of this newsletter. Best wishes, and happy horticulture -

- Merv Spurway.

WHAT DO YOU EXPECT FROM EDUCATION ?

- An American Point of View, by E.L. Cumbo, Haywood Technical College, North Carolina, USA. (from Bedding Plant Inc. News, Aug'80)

STUDENTS

Students, and for that matter, the entire horticultural industry, often expect too much from an educational institution. Many, and sometimes it seems like most, students expect a school to teach them all there is to know about horticulture. No one ever learns all there is to know about horticulture, but often students don't realise this and become frustrated at the small percentage of horticultural knowledge they are able to absorb in a short period of time.

Other students approach education with a very definite idea of what they expect to do upon completion of their formal education, i.e. landscape design, nursery manager, greenhouse operator, etc. These students often strongly resist learning anything out of what they see as their chosen field. This resistance to learning often includes such subject areas as botany, soils, maths, English, etc.

Another student attitude that presents problems in quality education, is that they should only get their knowledge from the instructor, during class hours. This attitude seems stronger each year. Students can be taught, but they can't be 'learned' anything. The students must do the learning, and to learn what should be expected of them, the student needs to spend more time studying and searching for information outside the classroom than in the classroom. Basically, the instructor is a learning coordinator and resource person, but the responsibility for learning is largely the student's.

WHAT DO YOU EXPECT FROM EDUCATION?(CONT)

THE INDUSTRY

Enough about students. Some members of the horticultural industry also have some unrealistic expectations of educational institutions.

There are those who feel that in a two or four year period, the students should be a horticulture expert and capable of performing any task or solving any problem presented to him. If a bedding plant operator, who has been involved with growing for twenty years, can't solve a problem, is it realistic to expect a student, right out of school, to do so? Many industry members expect this and more from a newly graduated student. Other industry members expect students to be instantly available to fit into their specific business without any period of adjustment.

INSTITUTIONS

Educational institutions cannot perform miracles! All institutions do not do as much as they could - but many do. A school can only work with the material it receives and if the attitude of some of students is that of : "You give and I will take, but don't expect me to work for what I get", then the school cannot do much refining of that raw material. Also, the school cannot narrow its programme to meet the preconceived desires of each individual student. Curricula are set up to serve the majority of students. These curricula are established with the guidance of industry advisers and the experience of the school staff, with the goal of meeting the needs of the industry. The industry can help the quality of horticulture education by channelling interested and motivated students to good schools and counselling them as to what they should be expecting at these schools. Most curricula are designed to provide a broad base of knowledge and skills upon which a graduate of the curriculum can build.

The industry can also assist the educational institution by being realistic in their expectations of graduates. Industry needs to realise that a school cannot necessarily change the student's attitude about work, even though we try. Schools do try to motivate, and encourage, students. The industry can continue this process upon hiring a graduate, and thus the knowledge learned at school may pay off for the employer through the student.

The horticulture industry has a right to expect graduates of horticulture programmes to be able to serve the industry through the use of their education. To this end, the schools, the students, and the industry must work together to develop strong horticulture programmes, properly motivated students with reasonable expectations of the school, and industry members with realistic expectations of horticulture graduates, plus a willingness to help continue the graduates' motivation and education.

SUCCESSFUL SALES

The following notes were in support of an address to the Horticultural Merchants Ltd. seminar, July 1981, by Mr T. Lees, Campaign Advertising Group (1980) Ltd.

HOW TO GET VALUE FOR YOUR ADVERTISING DOLLAR :

1. Prepare an advertising budget and stick to it.
2. Have a separate budget for miscellaneous publications, e.g. special advertising in local newspaper.
3. Prepare a plan for at least one year.
4. Carefully evaluate all advertising propositions.
5. Seek subsidies from suppliers of products for advertising.
6. Promote items in demand.
7. Think about the market and satisfy wants and needs.
8. Measure results of advertising carefully.
9. Call in advisers.

WAYS OF ATTRACTING CUSTOMERS :

1. Ensure word of mouth publicity is favourable by ensuring top service - important.
2. Give value for money and carry a good range of stock.
3. Advertise regularly in media and/or household circulars.
4. Make premises and layout attractive.
5. Promote sales and educate with specials, coupons, etc.
6. Promote special events, e.g. Mother's Day.
7. Have a good store name.
8. Good signs, vehicles, etc. - attractive, colourful, eye-catching.
9. Consider location, parking, delivery, and other customer services.
10. Look overseas and copy successful businesses.

INSTORE PROMOTION :

1. Layout - uncluttered aisles, tidy stock, good lighting.
2. Cross selling - tie in displays, e.g. fertilisers/pots with pot plants.
3. Specialising with clear prices.
4. Display in-demand merchandise with attractive items near checkout.
5. Good signs - overhead if possible.
6. Demonstrations - e.g. how to pot up plants, and product weeks (supplier support) free give away literature. etc.

EFFECTIVE WAYS OF INCREASING PURCHASES IN YOUR OUTLET :

1. Advertise to attract more traffic.
2. Offer discounts for quantity.
3. Free item for purchases over \$x.
4. Credit - weigh up against economics of administration and financing.

SUCCESSFUL SALES (CONT)

5. Package 'groups of products'.
 6. Stock range and depth.
 7. Home delivery for orders over \$x.
 8. Bulk orders from companies, clubs, societies, etc.
 9. Salesmanship and merchandising - know your products.
-

ON AN HISTORIC NOTE

The following report was published in the November 1948 'New Zealand Gardener' on the 1947 NDH Oral and Practical examinations :

EXAMINER'S COMMENTS :

It is felt that the questions adequately tested the candidate's knowledge of the subjects included in the syllabus of each examination, and it is recommended that examinations in future years follow the same lines.

Standard of work - A few of the students were obviously untrained and altogether lacking in the background and knowledge expected of candidates for these examinations. The majority of the candidates however seemed to have prepared themselves fairly thoroughly, but did not do themselves full justice. Many marks were lost through not answering questions properly, not doing exactly what was asked (planting two rows of plants instead of three; not leaving half a row of seeds uncovered, etc.) whilst some candidates even failed to label their work with their number.

There was much rough, careless work, both in the open plots and in the potting sheds. Outdoors, drills were drawn unevenly, plots left in a muddled, untidy condition, rows of vegetables were not parallel, the surfaces were left uneven and the whole work often lacked any sort of finish. In the potting shed, when sowing a box of seeds, many candidates left large pieces of stick in the rough stuff, while others used a layer of rounded lumps of soil (presumably riddlings from the loam) which were quite unsuitable for use as drainage. Another common fault was to ram the compost far too hard in the seed box.

The pot work was often disappointing, crocks and rough stuff being so poorly used that in a number of cases compost had already worked down into the crocks when the pots were turned out for the examination. Labelling was often very poorly done, while the whole finish was often disappointing.

Diploma candidates lost many marks through inability to do simple problems in garden mensuration and levelling. The garden plans submitted by candidates for the Intermediate examinations were very disappointing, and had obviously been done without proper care, but most of the candidates for this examination did well in the question dealing with the identification of plants. A number of Junior candidates lost marks heavily on the questions dealing with the identification of plants, horticultural materials, and diseases and pests.

ON AN HISTORIC NOTE (CONT)

Conclusions - The main purpose of the NDH is to provide a 'hall-mark' for the all-round horticulturist. Bearing this in mind, the examiners feel satisfied that this year's examinations have provided an adequate test of the candidates' practical knowledge and ability, but feel that the standard should be gradually raised.

Concern is felt about the standard of craftsmanship displayed by some of the candidates who had obviously not been taught to take a pride in their work. Horticultural Craftmanship is not showmanship, but is the art of making plants grow well, and every detail of work should be considered with this end in view. The examiners were, however, happy to see that some candidates' work was first-class, leaving little to be desired, and it is hoped that insistence on a high standard of work in this examination will encourage the teaching of the true craft of horticulture.

THERE IS ALWAYS A BETTER WAY - WORK SIMPLIFICATION

by P.F. Oppenheim, Massey University. (Reprinted from 'Fruit and Produce', March 1981)

This article describes some general principles which may be used to reduce the physical effort required in many day to day jobs, thus increasing the efficiency of labour. Practically every job has some parts which are not economical in terms of time and movement. A questioning attitude will, in most cases, lead to improved working conditions.

Let us take as an example the following situation in the production of glasshouse tomatoes. Tomato seeds were sown in boxes, later to be pricked out into seedling trays. Each seedling tray contained 54 seedlings and weighed 4.5 kgs. The labour force for the job of pricking out consisted of two workers, a boy whose job it was to do the servicing - filling boxes, making compost, transporting boxes, etc., and a woman who was actually pricking out.

Boxes which had been filled with compost were brought into the shed and unloaded. The boxes, three at a time, were then transferred to the bench and then individually to the working position. After 54 seedlings had been planted with the aid of a single dibble, the box was put to one side and when three had been completed they were lifted to the floor to await transportation to the growing on stage.

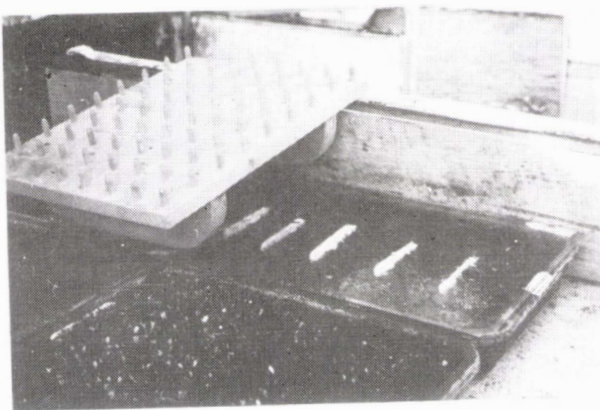
Now in order to simplify this job we must first determine the goals of the grower - in this case he wanted a tray with a definite number in it for planting out later on. The first thing then that we should ask, is whether pricking out should be done at all, or whether a suitable profit margin could be obtained from buying boxes of seedlings, or even growing another crop.

WORK SIMPLIFICATION (CCNT)

As it happened, these alternatives were not feasible, therefore questioning continued. Was there a more suitable container? Was 54 the right number of seedlings? Would pricking out be more efficient if the seedlings were bigger or smaller? Was the shed the best place for doing the pricking out? Was the bench really necessary? Could the worker sit down? Was there any need to prick out, or could the boxes have been direct sown instead? Was the firming of the compost essential? Should the seedling positions be pre-marked?

In this way the entire job was questioned in an effort to see exactly the way every move was made. By questioning in this way, alternatives often spring to mind. Here the critical factor appeared to be the fact that each box was lifted four times (a total of 18 kgs) during the pricking out process. Improvement came by using a second trailer which eliminated standing boxes on the floor. Leaving one part of the trailer empty enabled the worker to take a box from the truck, prick out the seedlings and then replace it on the truck; therefore each box was moved only twice. This method also cut out the lift from the truck to the floor, and finally from the floor back to the truck. Thus the total weight per box lifted inside the shed decreased from 27 kgs to 9 kgs.

Two additional changes were also introduced at the same time : (a) a suitable chair complete with built-in work bench was used, (b) firming of the compost as a separate operation was discontinued. Instead a multiple dibber which made 54 holes at one time was used. The seedlings were placed in the holes and firming was done by watering in.



Multiple dibber is one time-saving device.

After these changes were implemented a 50% increase in productivity was noted.

WORK SIMPLIFICATION (CONT)

A most important point, which is only too often overlooked, is that hands should not be used for holding things. A holding device is usually easy to improvise and will set the hand free for productive work. In the same way gravity should be used wherever possible. For example, it would be far preferable to have a hopper which released onions on to a sorting table than to lift a bag of onions on to the same table.

Planning is important in any activity but when a number of people work together planning is even more imperative so that idle time for men and machines can be avoided. The work should be balanced between the men and the machines doing it so that the limiting factor is not one particular man or one particular machine.

It is interesting to note that small gangs generally produce more per man than large gangs, so again planning is important and it is the manager's function to select gangs wisely so that poor combinations of workers are avoided.

A SYSTEMATIC PROCEDURE

Work simplification can be easily broken down to a systematic six-step procedure :

1. Select - It is important that one selects the precise problem for study carefully. For example if one decided to improve the labour costs in harvesting lettuce it may be found that 65% of total labour costs are involved in picking and only 5% in making cases. Therefore it would be logical to start our study by looking into picking methods.

2. Record - Recording existing methods on paper helps to identify critical aspects of a problem. Measuring times, distances, etc., helps to quantify the entire problem and facilitates comparison with improved methods. There are, of course, many more techniques.

3. Examine - This is the questioning phase where we question everything to see the entire situation in perspective. The five basic questions that should be asked are : What? - Where? - When? - Who? - How?

4. Develop - Having questioned the existing methods we must now use the practical principles of work simplification which we have discussed, to try to develop new and improved methods of work.

5. Install - The next step is to install the improved method. This is often the hardest step of all as workers are often reluctant to adopt new practices, especially if they have been involved in a particular situation most of their lives.

6. Maintain - The final step is to see that the new method is maintained. Old habits are hard to break and there will no doubt be a tendency to slip back into the old routine.

Work simplification is designed to improve the efficiency with which jobs are undertaken; it is not designed to make people work harder.

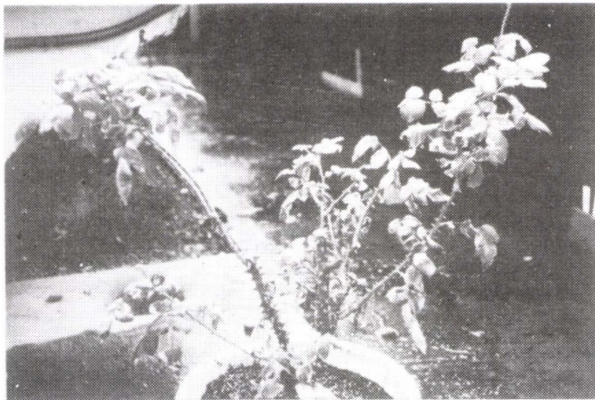
SPRAY DAMAGE

by D. Crater, Uni. of Georgia, USA (from *Bedding Plant Inc. News*, May 1977)

Why does spray damage happen? When a chemical is recommended doesn't this mean it will not burn the plant for which it is recommended?

There are several reasons why burning might occur. The main reason for burn from a recommended chemical is misuse. Sometimes we think that a chemical is recommended for a certain crop, but we do not read the label to make sure. ALWAYS READ THE LABEL AND FOLLOW LABEL RECOMMENDATIONS. Another point in this area is that often the wrong rate is used. If the label recommends 10g/10l, then use that rate and do not use more. Many times only a small amount over the recommended rate will cause foliar burn. Always follow label recommendations for crops and rates.

Another possible cause for burn from spraying includes not mixing thoroughly. If not completely mixed, part of the spray will be too concentrated and part will be too weak. Always mix completely before spraying. Another problem that often occurs is that of spray material settling to the bottom of the sprayer. If your sprayer does not constantly mix the solution, check it often to prevent settling of the spray material.



Spray damage on a potted rose.

During the hot summer months, the plant will react differently to spraying than in cold weather. During the heat of the day the leaves dry faster and there is a greater chance of burn because of the hot sun or from the drying and concentrating of the chemical being sprayed. The spray tends to run to the lowest point on the leaves and as they dry, the chemical becomes more concentrated. Thus burn, many times, occurs on the lower sides of the leaves. Early morning spraying is best during hot weather with late afternoon being second best.

REMEMBER : there are several things that can cause burn from chemical sprays and following these recommendations should prevent most of your spray damage.

OPPORTUNITIES IN HORTICULTURE

by S.J. Franklin, MAF advisor, Hamilton.
(from 'Fruit and Produce', April 1981)

Before embarking on any horticultural enterprise, consideration should be given to establishment and maintenance costs, length of time before full production can be expected, and market potential. Horticultural enterprises tend to be long term, complicating the analysis of any proposed venture.

Many horticultural producers are only just making a living out of horticulture; almost no-one makes a fortune. There are, however, still opportunities for new producers, provided market prospects and husbandry techniques are thoroughly investigated. Some practical experience should be gained by working on an established property before starting an enterprise.

Would-be horticulturists can include :

1. Farmers wishing to diversify.
2. Owners of 4ha blocks.
3. People seeking a change in life style.
4. People unable to afford a large piece of land, who turn to horticulture as a supposedly cheaper alternative.
5. People wishing to combine their hobbies with earning a living.

Horticulture embraces a wide range of industries and enterprises including :

1. Tree fruits (pip, stone, citrus, subtropicals).
2. Grape vines and vine-like fruit (passionfruit, kiwifruit).
3. Berryfruit (strawberries, raspberries, boysenberries, brambles, currants, blackberries).
4. Vegetables.
5. Flowers.
6. Nurseries.
7. Landscape and ornamental gardening.
8. Mushrooms.
9. Glasshouse crops.
10. Tree crops (nuts).

RETURNS FROM HORTICULTURE

Without producing and marketing skills, it is difficult to make a living from horticulture. Returns depend on the skill of the producer, the complexity of the enterprise and financial investment. The amount of land needed is also dependent on these factors to a large extent.

Vegetable production is the easiest to start in, but returns are very low. Therefore, vegetables require the greatest area of land. Certain specialist crops may offer greater returns, but in these cases, growing skills replace larger land areas.

Nuts also require extensive areas of land, in the right district, to produce crops of any size. It is unlikely nut crops alone could provide a living, but under some circumstances they could be a profitable sideline.

OPPORTUNITIES IN HORTICULTURE (CONT)

Orcharding is higher on the list of skills and equipment, and a living can be made from a smaller area than is needed for vegetables.

Most skill, and the highest capital investment are required for mushrooms, glasshouse crops and nurseries. Much capital is involved in plant and equipment, but relatively small amounts of land are needed for profitability.

Horticulturists who make a good living generally have business ability, much larger properties than the minimum economic unit, and spend more time managing and supervising than working with plants. Managerial skills must be combined with a thorough knowledge of the crop being produced. The economic trend is towards large, company-owned properties, rather than small family concerns.

TRAINING

For any horticultural enterprise, a degree or diploma in horticulture or an equivalent qualification is desirable, but it must be coupled with good practical experience. The degree of skill and experience required to succeed in the various horticultural enterprises is shown in the following list, in descending order :

1. Propagating nurseries.
2. Garden centres and plant retailers.
3. Mushrooms.
4. Flower production.
5. Glasshouse vegetables.
6. Orchards.
7. Vegetables.

It is rare for inexperienced growers to succeed in nurseries, mushroom units, or in flower growing, at least without suffering several setbacks while gaining experience. It is easier to learn orcharding and vegetable growing (outdoor and glasshouse). However, the ability to organise time and work, and to grasp production and marketing skills, is required.

Successful nurserymen have almost invariably started out with a thorough practical knowledge gained by working experience. Many served an apprenticeship on an established property, and then went on to further qualifications, such as the National Diploma in Horticulture.

For other types of horticulture, two full years' work on a property producing the crop of interest gives year-round experience in husbandry and marketing, and the organisation of the enterprise. This practical experience makes it easier to borrow money from the Rural Banking and Finance Corporation to finance purchase of a property.

LAND

Recommended minimum areas for various types of horticultural units are :

OPPORTUNITIES IN HORTICULTURE (CONT)

Type of production :	vegetables	16 ha
	vines	10 ha
	tree fruits	8 ha
	berryfruit	2 ha
	kiwifruit	2 ha
	flowers	2 ha
	glasshouses	0.12 (internal area)

Proximity of the property to markets and good transport services are important.

A flat to gently sloping block, open to the north for maximum benefit from the sun, is desirable. Flat land may be frost prone.

Soil type is important. Consult a MAF horticultural advisory officer about the most suitable soil for the particular crop. Good drainage is essential for almost all crops.

A good water supply is required as irrigation is desirable at some stage almost every year.

GETTING INTO HORTICULTURE

Buying a property as a going concern may be the best way of getting into horticulture, provided the unit is efficient and designed for ease of management.

Profitability in relation to the purchase price and the amount of indebtedness involved should be assessed by examining the previous three years' accounts. Do not buy without seeing the accounts.

There are some advantages in starting the enterprise from the beginning; the most efficient layout for the particular enterprise can be planned. However, large amounts of capital are required to set up the enterprise, before there are reasonable returns.

Orchards are particularly difficult, as trees take some years to come into production. There is always a period when the trees demand full-time attention, while not returning a big enough crop to provide a living.

It takes time to establish a new property, but careful preparation will pay off in the long run. In many cases it is important to establish shelter before planting out trees or vines. This applies particularly to kiwifruit and citrus, and is desirable for other tree fruits, grape vines and berryfruit.

MARKETING CONSIDERATIONS

When markets are oversupplied with a product, the price drops, possibly even to levels lower than the cost of production. The disastrously low potato prices of 1977, when huge quantities of potatoes were grown, are a prime example.

The amount of produce that can be consumed in New Zealand is limited so, without assured export markets, a large increase in

OPPORTUNITIES IN HORTICULTURE (CONT)

the production of any horticultural product will depress prices. It is advisable to check on the marketing and supply situation before entering horticulture.

Export markets are being developed for nursery stock, flowers, nectarines and mushrooms, but these are likely to be limited in the foreseeable future. Vegetable exports tend to be sporadic and the markets unreliable. Much the same applies to berryfruits.

Apples and pears which meet the required grading standards have an assured market through the New Zealand Apple and Pear Marketing Board.

To make entering horticulture worthwhile economically, the proposed business should give an income equivalent to earnings in other employment, allowing for salary increases and promotions. The expected return from the property should represent a reasonable percentage of the money invested.

'NEW ZEALAND - WHERE ARE YOU?'

This is the attention-grabbing title given to the proceedings of the NZ Institute of Landscape Architects' 1981 Conference, which was held in February at Victoria University, Wellington.

Contents include "Landscape as a Visual Resource"
"Boundaries - the Buck stops where?"
"Our changing 'natural' landscapes"
"Farm Shelter - Concepts and Conflicts"
"An Identity based on Environmental Realities"
"Planning - the Designers' Positive Role"
"A NZ Landscape Character Study"
"Preserving the Living Indigenous Landscape -
what information is really needed?"

by such people as : Prof. James Ritchie, Prof. Kevin O'Connor, Dr. Geoff Park, Diane Lucas, Allan Rackham, David Stringer, David Reed - over 25% of the papers were by landscape architects, the other 75% were by people who had the means to help.

These papers have been published in a 220 page book, available from the NZ Institute of Landscape Architects, P.O. Box 10022, The Terrace, Wellington, at a cost of \$5.00 plus \$1.00 postage.

THE STUDENT'S DIARY

The following notes are specially written by Mr J.O. Taylor, Moderator of the Oral and Practical examinations in Auckland, November 1981.

The Institute's Examinations Approval Notice 1971/231 requires (p.3) that a student shall submit for the approval of the Examining Board an account in the form of a diary of the work in which the student has been engaged and of such other matters of horticultural interest as have engaged the student's attention.

Thus, a diary or record of horticultural work MUST be submitted at the oral and practical examination for approval. The requirements for the diary and brief guidelines are given on Page 13 and 14 of the RNZIH Guide for Students (obtainable from the Secretary, P.O.Box 12, Lincoln College.)

Why is a diary required? The reason is to assist students in the development of a methodical approach to learning and record keeping.

To help in the setting up of a useful diary a student should :

1. Purchase a stiff or semi-stiff covered notebook, preferably lined, A4 size (20cm x 30cm). This need not necessarily be in printed diary form.

An excellent diary or record keeping book can be produced by using a loose leaf folder which can be added to as required. For reference purposes pages should be numbered.

2. Possess at least one good encyclopaedia (e.g. the RHS Dictionary of Gardening) or possess several recognised text books on subjects related to the Diploma for which the student is studying.
3. Keep all text books, horticultural journals and periodicals in a place handy to the work bench, table or desk which is used for writing up the notes. Be tidy in all your "office" activity of diary note taking.
4. Learn to spot articles or items of horticultural interest which are published from time to time in newspapers and journals, and read them. Cut them out if they are considered worthy, and use them in your diary. You may paste them in (neatly) but do not overdo this.
5. If you have a camera, use it for photographing not only plants but horticultural techniques and methods used in your work-place or when you visit other establishments.

What should be written in a diary?

Because a diary, generally speaking, is a record of work there are bound to be many days or even weeks of repetitive work which may not justify more than a few lines. For example : Oct.16th : "Began hoeing the borders because weeds are

THE STUDENT'S DIARY (CONT)

appearing after the heavy rains last week." (The hoeing could continue for 5, 10, 15 days, or more.) But you could write about some of the plants which you were hoeing amongst, such as Forsythia. Reach for your textbook and you will find that Forsythia is in the family Oleacea. The Olive family includes Olea (Olive), Fraxinus (Ash) and Syringa (Lilac) among many others. Two common parent species of the many hybrids now in cultivation are natives of China, that is, Forsythia suspensa and F. viridissima. Many new Forsythia hybrids were raised at the Arnold Arboretum by the late Dr Karl Sax, such as 'Arnold Dwarf', 'Arnold Giant' and 'Beatrice Farrand'. To prune Forsythia you should thin out and cut back old flowering shoots to within a few cm. of the old wood immediately after flowering. (For these notes, refer to Hillier's Manual of Trees and Shrubs, 4th edition, 1974, or other texts.)

OR you could write about some of the weeds which you are hoeing out, such as Amaranthus spp. There are six or seven Amaranthus or redroot weeds which are mostly troublesome north of Nelson. They are of tropical origin, are prolific seeders, but the plants are frost tender. Because it is a strong competitor for light, soil moisture and nutrients, it should be hoed out or sprayed out as soon as possible. Probably the best spray to use on pathways and open areas away from cultivated plants is Paraquat. (Refer to 'Weed Control by Chemical Methods' by Mathews, Govt. Printer.)

A very attractive ornamental annual which is not a weed however, is "Love lies bleeding", or "tassel flower", Amaranthus caudatus. This has large coloured showy nodding panicles and the plants sometimes grow to a metre or more in height.

You can see from these suggestions that it is not too difficult to assemble a wealth of information which will stand you in good stead throughout your career.

Can your diary be a useful record?

Most certainly. If you learn to record information which has technical value, you must have some means of finding the information when you want it. The diary itself because of its dated entry will give you a ready reference to timing of activities. Items such as the time to prune certain plants, or spray pests and diseases, or make cuttings and sow seed, are recorded by date. But how can you retrieve this information quickly? Here is a suggestion :

(Once you get into the habit you will find it most useful for the future.)

At the back (or front) of your diary mark up in alphabetical order about five or six pages into sections, beginning A, B, C, etc. (Allow more lines for A, B, C, D, than for, say, Q, X, U or V.) At the completion of each diary entry write down in this index (which you are compiling) the principle thing which you have written about. For example, from the notes above write in Forsythia, P.?, under 'F', Amaranthus (weed) and Amaranthus caudatus, P.?, under 'A'. It takes only a moment to identify the key items and write them up each day or each week whenever you write your notes.

THE STUDENT'S DIARY (CONT)

When you write up, say, the notes which you have taken from the label on a bottle of Malathion, notes such as 'insects controlled, waiting period, spray compatibility, precautions, etc.', then your index will enable you to find immediately the information at any time in the future.

These notes are intended to reinforce the value of record keeping. For the purposes of the examinations, the record keeping is turned into a diary, but it need not be an exact diary in the sense that something must be written every day of the week. It is not necessary that every day has an entry, nor each week for that matter. Rather the diary should be an assemblage of horticultural notes compiled regularly throughout the year and representing firstly your own horticultural activities and secondly your own additions to your work notes from the questions you ask or the books to which you refer to extend your knowledge.

Simply by writing down your observation and recording information from authoritative texts into your diary - record book, you will be helping yourself immensely in your horticultural career.



ROLL CALL FOR ORAL & PRACTICAL EXAMINATIONS IN CHRISTCHURCH,
NOVEMBER 1981.

Left to right : Mr C. Oliver, Deputy-Director, Parks & Recreation, Christchurch; Dr M.B.Thomas, Snr. Lecturer, Dept. of Horticulture, Landscape & Parks, Lincoln College; Mr N.W. Drain, Director, Parks & Recreation, Christchurch; Mr G.G. Henderson, Director, Parks & Recreation, Dunedin.

Welcome

to the following new members :

Mrs H.F. Letts, New Plymouth	I. Mopafi, Papua New Guinea
Mrs C.E. Hamblyn, " "	G.I. Bond, Christchurch
Wainuiomata Gardeners' Club	K. Bridle, Napier
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A.W. Ottley, Temuka	

KOWHAI CLONING

Many people regard Kowhai (*Sophora microphylla* and *S.tetraptera*) as New Zealand's national flower, and it is certainly one of the most attractive flowering trees. Kowhais are unfortunately very difficult horticulturally, as the species is extremely variable with numerous ecotypes differing in tree shape and size, leaf and flower characters. They are readily grown from seed but the shrubby juvenile plants have little ornamental appeal. The duration of the juvenile phase varies considerably between different seedlings and ecotypes, some can mature and develop the adult flowering tree form as quickly as 7 years, others are reported as having remained juvenile for 40 years.

Research on propagation of Kowhais was undertaken by the late Mr John Goldie at the Levin Horticultural Research Centre. He made the very important discovery that adult flowering Kowhai trees could be propagated from cuttings and that such cuttings retain the adult characteristics and commence flowering two to four years after propagation. This discovery allows trees with the most desirable horticultural characteristics to be cloned, thus offering buyers plants with predictable characters and performance.

A large collection of ecotypes and seedlings has been established at Levin and it will be possible to select trees for cloning which differ in size, shape, flower colour and flowering time to suit a variety of garden situations and uses. Three clones have already been selected and are now being propagated by the NZ Nurserymen's Association; these clones should be available through the retail trade in two or three years' time. More clones will be released in about five years.

This discovery will benefit the New Zealand gardener, who will be able to plant Kowhais and expect them to flower quickly. It will also enable nurserymen to offer with confidence Kowhais for export. The species is relatively unknown overseas and the few seedlings that have been grown overseas have not usually performed impressively.

(This article by R.A.J.White, Scientist at the Levin Horticultural Research Centre, was reprinted from "GROWTH" No. 3, a MAF publication.)

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