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**JOURNAL
OF THE
ROYAL NEW ZEALAND
INSTITUTE
OF
HORTICULTURE**



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Edited under the authority of the Executive
Council of the Institute.

EXAMINATIONS

Examinations for the following are conducted by the Institute:—

1. Junior Certificate in Horticulture.
2. Intermediate Certificate in Horticulture.
3. Diploma in Horticulture.
4. Seedsman's National Certificate.
5. National Certificate in Florists' Art.

Examination Papers

Sets of examination papers used at the last six examinations in horticulture are obtainable on application for sixpence per examination set.

Address all correspondence to:

Dominion Secretary,

Royal N.Z. Institute of Horticulture,

Box 1237,

Wellington.

Journal of the Royal New Zealand Institute of Horticulture

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WELLINGTON, APRIL, 1940.

No. 4.

SUMMARY OF PROCEEDINGS OF SEVENTEENTH ANNUAL CONFERENCE.

The Seventeenth Annual Meeting and Conference of the Institute was held in St. Andrew's Church Hall, Wellington, on Thursday, 1st February, 1940, at 10 a.m.

(The meeting formed part of the proceedings of the tenth National Horticultural Week held in conjunction with the New Zealand Horticultural Trades' Association, the Horticultural Seedsmen's Association of New Zealand, the Association of Directors of Parks and Reserves and the New Zealand Florists' Telegraphic Exchange. On the Tuesday and Wednesday of the Week, the ninth National Flower Show, under the auspices of the bodies mentioned above and the New Zealand Flower Show Committee, 1940, was held in the Assembly Hall and smaller halls of the New Zealand Centennial Exhibition Buildings, Wellington.)

OFFICIAL OPENING OF NATIONAL FLOWER SHOW, 1940:—On Tuesday, 30th January, 1940, at 2.45 p.m., Mrs. Knox Gilmer, President of the National Centennial Flower Show, 1940, introduced the Deputy-Mayor of Wellington, Mr. Martin Luckie, who extended a civic welcome to National Horticultural Week, 1940, delegates and to Sir Harry F. Batterbee, High Commissioner for the United Kingdom, who officially opened the National Centennial Flower Show.

ROLL CALL:—In addition to the President, Mr. F. S. Pope, the following were present:—

Auckland District: Miss E. F. Kibblewhite, Messrs. N. R. W. Thomas, C. Rothwill, G. J. Fillmore and H. Darrall.

Gisborne District: Mr. G. T. Maunder.

Hawkes Bay District: Messrs. J. G. C. MacKenzie, G. D. Wilson, W. A. Wilson, M. R. Boothby, B. Teague and R. A. Merritt.

Taihape: Mr. E. A. Abbott.

Taranaki District: Mr. and Mrs. T. Horton, Mrs. J. C. McDowall and Mr. Percy Thomson.

Palmerston North: Messrs. P. Black and A. R. Hadfield.

Wellington District: Mrs. Knox Gilmer, Professor H. B. Kirk.

Dr. W. R. B. Oliver, Dr. H. H. Allan, Messrs. W. K. Dallas, J. G. MacKenzie, T. Waugh, Geo. Cooper, Hope B. Gibbons, A. Leigh Hunt, A. McMillan, H. Baillie, A. W. Buxton, Wm. C. Hyde, E. Hutt, A. W. Nisbet and G. S. Nicoll.

Nelson: Mr. A. White.

Blenheim: Mr. G. Millson.

Canterbury District: Mrs. A. McGillivray, Messrs. M. J. Barnett, J. A. McPherson, E. C. Gibbons, J. N. McLeod, T. D. Lennie and H. T. Falla.

South Canterbury District: Mr. A. W. Anderson.

Otago District: Messrs. D. Tannock, J. Tait and H. A. Christie.

Southland District: Mr. B. P. Mansfield.

Greymouth: Mr. R. G. Cooper.

APOLOGIES:—Hon. W. E. Parry and Mr. J. W. Heenan (Hon. Minister and Under-Secretary of Internal Affairs), Mr. and Mrs. G. H. Huthnance, Dr. W. McKay, Messrs. Aldridge, H. Bennett, C. W. Corner, L. W. Delph, W. T. Goodwin, H. Kitson, T. L. Lancaster, L. W. McCaskill, J. C. McDowall, Herbert J. Poole and W. H. Rice.

RESOLUTION OF LOYALTY:—The President moved the following resolution:—

“That this annual conference of the Royal New Zealand Institute of Horticulture, meeting at a time when the British Empire and the French Republic are facing together the horrors of war against a brutal despotism in defence of the democratic liberties of themselves and the smaller nations of the world, hereby resolves to give expression to its continuous loyalty to His Majesty the King, and to assure him and his ministers in New Zealand of the determination of the members of the Institute to do with zeal and alacrity all that may be required of them towards bringing the conflict to a successful conclusion and, further, that conference directs that this resolution be forwarded to the Right Honourable M. J. Savage, Prime Minister, with a view to its being respectfully submitted to His Majesty and noted by his Ministers in New Zealand.”

The resolution was seconded by Mr. T. Waugh and carried unanimously.

Welcome to Delegates:—The President then welcomed all delegates to the Annual Conference, remarking that “it would have delighted the late J. A. Campbell and G. A. Green to have seen such a fine gathering. All people engaged in horticulture are learning to appreciate the Institute which exists for the co-ordination of all horticultural interests. He was pleased to have been able to do a little towards deepening and widening that impression. He extended a hearty welcome to all and hoped that the Conference would be most successful.”

National Centennial Flower Show, 1940:—Hearty congratulations were expressed to the Executive of the National Centennial

Flower Show on the excellent team work of members of local horticultural societies and other horticultural bodies, which had resulted in a show of high standard and assured profit.

Minutes of Sixteenth Conference held at New Plymouth on Thursday, 2nd February, 1939, (as circulated in the Institute's Journal of March, 1939, Pages 96—105) were confirmed.

Conference, 1939, Remits and Resolutions:—Report on action taken regarding these was adopted and the following reports in respect of 1939 remits were tabled:—

HORTICULTURAL CLASSIFICATION—Convener, Mr. M. J. Barnett. The convener suggested that this should be referred to the leading horticultural societies and thanks were extended to the committee and convener for this valuable report.

VEGETABLE AND FLOWER SEED PRODUCTION IN NEW ZEALAND—Convener, Mr. W. K. Dallas. A hearty vote of thanks was tendered to the committee responsible for framing the report and its convener and it was decided to forward the report to District Councils for their consideration and subsequent reference to the Executive Council for such action, including publication, as may be decided.

Mr. W. K. Dallas (convener) thanked the Committee for the great assistance given in the preparation of the report and Mr. Hadfield for the benefit of his valuable advice.

ELECTION OF OFFICERS:

President:—On the nomination of the Executive Council, Mr. F. S. Pope was unanimously re-elected President.

Vice-Presidents:—Mr. T. L. Lancaster (Auckland), Dr. W. M. Thomson (Taranaki), Messrs. C. W. Corner (Hawkes Bay), P. Black (Palmerston North), J. G. MacKenzie (Wellington), Sir Theodore Rigg (Nelson), M. J. Barnett (Canterbury), G. E. Knowles (South Canterbury), D. Tannoek (Otago) and Sir R. A. Anderson, C.M.G. (Southland).

Executive Council:—Mrs. Knox Gilmer, Dr. H. H. Allan, Messrs. T. Waugh, J. A. McPherson, J. C. McDowall, W. T. Goodwin, Wm. C. Hyde, E. Hutt, A. W. Just, A. White and representatives of various Government Departments and National Bodies and Societies, viz.:—

New Zealand University:—Prof. H. B. Kirk.

The Royal Society of New Zealand:—Dr. W. R. B. Oliver.

The Director-General of Agriculture:—A. H. Cockayne.

The Director of Horticulture:—W. K. Dallas.

The Director, State Forest Service:—A. R. Entrican.

New Zealand Fruitgrowers' Federation:—T. C. Brash.

President, New Zealand Horticultural Trades' Assn. (Inc.):—
A. McMillan.

Horticultural Seedsmen's Assn. of New Zealand:—Geo. Cooper.

Horticultural Societies:—J. S. Barton.

New Zealand Forestry League (Inc.):—A. Leigh Hunt.

- Forest and Bird Protection Society of New Zealand:—Captain E. V. Sanderson.
 National Daffodil Society of New Zealand:—H. J. Poole.
 New Zealand Alpine and Rock Garden Society:—Hope B. Gibbons.
 The Dahlia Society of New Zealand:—A. W. Nisbet.
 Wellington Beautifying Society:—Captain S. Holm.
 Hon. Auditor:—Mr. J. L. Arcus was re-appointed with a vote of thanks and appreciation for last year's services.

ELECTION OF HONORARY MEMBERS:

Hon. Fellow:—Four names were submitted to the Conference—one to be elected—and the Conference Ballot resulted in the election of Mr. Henry Bennett, Dunedin.

Hon. (Overseas) Member:—Dr. Charles Stuart Gager was elected.

REPORTS.—The following reports were received and adopted:—

- 1.—Executive (with Statement of Accounts).—See Journal of December, 1939.
- 2.—Examining Board.—See Journal of December, 1939.

PRESIDENT'S ADDRESS.—The President, after returning thanks for his election, delivered the following address:—

HORTICULTURAL CENTENNIAL.—It is appropriate that the annual meeting and conference of the Royal New Zealand Institute of Horticulture, held as usual at the beginning of February, should on this occasion synchronize with the celebrations in connection with the centenary of organized permanent settlement in this Dominion. One of the most constant characteristics of permanent settlement by civilized people is the pursuit of horticulture. Indeed it is hardly too much to say that one of the main differences between the temporary encampments of nomadic occupiers on the one hand, and permanent settlement of a territory on the other, is the, at best, casual attention given to gardens in the case of the nomad and the thought and labour expended upon horticulture, whether for utility or for beauty, by those who intend to make homes for themselves and their families. Thus, although admittedly gardens were made and tended in New Zealand long before organized permanent settlement began, yet it is substantially true to say that we are now celebrating the centenary not only of settlement, but also of purposeful horticulture, in this Dominion.

That being so, we may well ask ourselves the question—Can we fairly claim that, on the whole, the Dominion has a right to be satisfied with the progress made in its horticulture during its first hundred years? While one cannot avoid the conclusion that, in many specific directions, we have failed to take full advantage of our opportunities, yet there can, I am confident, be little or no doubt that we are fully entitled to be, not merely satisfied with, but very

proud of, what has been accomplished by our grandfathers, our fathers, and ourselves, and, let us not forget, by our womenfolk also, without whose moral and physical support much that has been done would never have been attempted, or if begun would never have been completed.

But, while it is perhaps desirable thus to congratulate ourselves on past achievements, it may not be less profitable to face up to some of the matters in which we have failed, and are still failing, to utilize our horticultural opportunities to the full.

PRIVATE GARDENS.—To begin with the obvious, there are thousands of small private gardens in all the built-up areas of New Zealand that would be vastly improved by some additional thought and work each season. Strictly between ourselves, my own is a case very much in point. Still I venture to appeal to all concerned to make up their minds that they will contribute to the worthy celebration of the centenary of New Zealand horticulture by putting their own gardens into good order, and by making a start on this at the very first opportunity.

BEAUTIFICATION OF ROADSIDES AND RESERVES:—Another matter in which we might do much better in future is the beautifying of our roadsides and municipal reserves. In saying this, I am not overlooking the very fine work of a number of our local-governing authorities. What is being done is in many cases excellent, but, if adequate funds were provided, much more could be done towards bringing our municipal parks, gardens and roadsides nearer to the standards of those countries that take the lead in these respects. Apart from the local-governing authorities, however, very great credit is due, and I am sure is heartily given, to the public beautifying societies that are doing such good work in many localities; but in every case much more could be accomplished if the number of contributors of the trifling annual subscription to these bodies were largely increased. Here is another way in which thousands might participate in our horticultural centennial.

As regards large-scale planting of roadsides and reserves, however, the work of the beautifying societies, even if it is adequately supported by the public, can only be supplementary to that of the local-governing bodies, from whose revenues the expenditure involved in such projects must always be provided; and in this connection, the Institute of Horticulture, aided by a grant made by the Hon. W. E. Parry, Minister of Internal Affairs, has done good service by publishing a brochure entitled "Roadside Beautification in New Zealand," by M. R. Skipworth, B.Sc., N.D.H. (N.Z.), and circulating this to local-governing authorities and other persons likely to find it of use.

It is gratifying to note that tree-planting is being given an important place in the proposals of many public bodies for honouring the Dominion's general centenary, but there is still room for doing

much more in this direction, and it is quite a mistake to suppose that next planting season, or several seasons after that, will be too late to put this kind of centennial celebrations into effect.

During a recent visit to Sydney, I was greatly impressed by the extent to which brightly flowering kinds of trees and of large shrubs are used in beautifying roadsides and reserves. Literally miles of streets carrying quite heavy traffic are planted along each side with red-flowering eucalypts, which are severely topped back from time to time, to restrict them to a suitable size. In young leaf in the Spring they were beautiful, but in flower later on they must be glorious indeed. In some of the larger reserves, the planting is arranged so that a number of kinds of flowering trees and shrubs succeed one another in wide-spread masses as the season advances. For some weeks a large area is aglow with poinsettias, later it is afire with coral-trees, and in turn these give place to the more delicate flush of oleanders, the effect of these large-scale variations in the colour scheme being extremely fine. Such results can, of course, only be obtained where sufficient space is available. They need time to mature but they ultimately pay handsome annual dividends of beauty and interest to the people as a whole.

OTHER DESIRABLE DEVELOPMENTS.—Many other directions in which our horticultural endeavours might be extended or intensified early in our second century will doubtless suggest themselves to those concerned, and I need only ask you all to consider what you personally can do to provide such developments.

EDUCATIONAL.—The report of the Institute's Examining Board, for the year ended on 30th September last, shows that the scheme of examinations for our certificates and diploma is progressing steadily, the number of candidates for the November examinations being the largest yet attained. The continued stimulus, thus being given to the rising generation of horticulturists to persevere with their studies is undoubtedly one of the Institute's principal claims to general support, and the success of the scheme is therefore a matter for congratulation. It is, however, greatly to be regretted that horticultural education in the Dominion is still being sadly hindered by the lack of the comparatively small amount of financial assistance the Government has been repeatedly urged to provide to enable a school of horticulture to be conducted upon a sound basis. The Local Domains Board has made a good beginning in establishing such a school at Christchurch, and is receiving very encouraging support from many quarters; but a subsidy is necessary to put the project on its feet, and for this the Domains Board must look to the Government. The Institute has shown itself to be solidly behind the Board in this matter, and is ready to make further representations to the Government in regard to it whenever the time is considered to be suitable.

Another impediment to horticultural education among us is

the want of glass-house accommodation in the Wellington Municipal gardens. Without such facilities, the authorities cannot see their way to accept students for training. Surely some means can be found to provide the citizens of Wellington and the ever-increasing stream of visitors to this City, with the pleasure and refreshment of a winter garden; which would at the same time enable a number of students to be trained in the municipal gardens.

NATIONAL HORTICULTURAL WEEK.—The activities of National Horticultural Week took place last year at New Plymouth, and the arrangements reflected the greatest credit upon the Taranaki District Council of the Institute and upon all who assisted them in making the week so notable a success. The National Horticultural Show brought together a wealth of excellent exhibits and attracted very great interest and appreciation throughout and far beyond Taranaki. The annual meetings and conferences of the several bodies concerned with horticulture were all successful, the hospitality extended to the visitors was lavish and charming and the Banks Lecture, delivered by Dr. H. H. Allan of the Department of Scientific and Industrial Research, was both entertaining and instructive. Altogether, it may be confidently stated, that all who visited New Plymouth for the 1939 National Horticultural Week will welcome the opportunity of repeating the experience at some future date.

THE DIRECTOR OF THE HORTICULTURE DIVISION.—All concerned in horticulture in New Zealand will join in rejoicing that Mr. W. K. Dallas, N.D.H. (N.Z.), Director of the Horticulture Division of the Department of Agriculture, has recovered from his recent severe illness, and is again fit for the arduous and responsible duties of his position.

FRUIT-MARKETING.—The Government is to be congratulated upon its decision to undertake the marketing of fruits whose export from the the Dominion is impracticable owing to the existing state of war. Even if a substantial loss arises from this operation, it is better that this should be borne by the whole people than that those engaged in the industry should be irretrievably ruined by an international calamity quite beyond their control.

OTHER NATIONAL HORTICULTURAL BODIES.—Without going into detail, it may safely be said that, during the year, much good work has been done by other horticultural bodies of national scope in the Dominion, such as the Horticultural Trades' Association, the Seedsmen's Association, the Florists' Association, the Fruit-growers' Federation, the Commercial Gardeners' Association, the National Daffodil Society, the Dahlia Society, the Alpine and Rock

Garden Society, and the Native Plant Preservation Society. These bodies are either affiliated to the Institute or in close co-operation with it, and in connection with appropriate matters, each of them gives the Institute solid and much-valued support.

FINANCE.—Notwithstanding that the Institute's balance of income over expenditure for the year was small, the state of the finances continues to be satisfactory. We are indebted to the Hon. W. Lee Martin, Minister of Agriculture, for the continuation of the Government's annual grant of £100 in support of our work, and I take this opportunity of publicly thanking him for his valued help.

BANKS LECTURE, 1940.—The Banks Lecture this year is to be delivered by Professor H. B. Kirk, M.A., of Victoria University College, who has chosen "Tree Ferns and other Ferns" as his subject. As the Professor is an entertaining speaker and knows ferns thoroughly, an interesting evening can be confidently expected.

PRESIDENT'S ABSENCE.—In conclusion, I may say that circumstances obliged me to be absent from New Zealand during a considerable part of the year, and this prevented me from giving as much attention to the affairs of the Institute as I should otherwise have done. My absence naturally threw additional work and responsibility upon others, and I wish to thank them, and especially our invaluable Secretary, for their sympathy and help in this connection.

REMITTS ADOPTED.

ALTERATIONS OF RULES:—

- (1) That the following alterations to the rules of the Institute shall be made and registered:—
 - Rule 1. Substitute "Royal" for "The" in the name of the Institute.
 - Rule 6 (b). (1) Lines 2 and 3 substitute "The Royal Society of New Zealand" for "The New Zealand Institute."
 - Rule 6 (b). (3) Substitute "Horticulture" for "Horticultural."
 - Rule 6 (b). (6) Substitute "New Zealand Horticultural Trades' Association (Incorporated)" for "New Zealand Association of Nurserymen (Incorporated)."
 - Rule 6 (b). (7) Delete and substitute "the accredited representative of the Horticultural Seedmen's Association of New Zealand (Incorporated); New Zealand Florists' Telegraphic Exchange; the Forest and Bird Protection Society of New Zealand (Incorporated); the National Daffodil Society of New Zealand (Incorporated); the New Zealand Alpine and Rock Garden Society (Incorporated); the Dahlia Society of New Zealand (Incorporated);"

ated); and the Wellington Beautifying Society respectively.

Rule 12 (d). 3rd line alter "1908" to "1933."

Rule 15 (a). 2nd line delete the words "ten shillings (10s.," and substitute the words "seventy per cent." Fourth line delete the words "two shillings and sixpence (2s. 6d.," and substitute the words "thirty per cent." 2nd line add after the word "member" the words "which shall be deemed to include a member and his wife." 15 (a) add at end; "and from a subscription of two shillings and sixpence per annum to be paid by every person under age eighteen who is a junior member."

Rule 15 (b). Fourth line after the word "Society" add the following "seventy per cent. of such subscription shall be retained by the Executive for the support of the Institute, and thirty per cent. shall be paid to the appropriate District Council for the local expenses of the Council."

Rule 16 First line alter the word "April" to "October."

EDUCATIONAL:—

- (2) That it be a recommendation to the Executive Council that it should continue to bring before the Government the necessity for the establishment of a School of Horticulture in New Zealand. It was recommended that a copy of Mr. L. W. McCaskill's letter should be sent to the Hon. Minister with the remit.

JOURNAL:—

- (3) That this Conference records its appreciation and directs that a hearty vote of thanks be conveyed to Dr. W. R. B. Oliver for his able Honorary Editorship of the Institute's Journal from its first issue in June, 1929, until the 24th November, 1938.—Carried by acclamation. It was mentioned that Dr. Oliver had first advocated the publication of the Journal and that credit was due to the late Mr. J. A. Campbell for his assistance. Dr. Oliver acknowledged the vote of thanks.

NATIONAL FLOWER SHOW:—

- (4) That, subject to the concurrence of the other national bodies concerned, the title of the "National Flower Show" should be altered to "National Horticultural Show."

T. D. Lennie—M. J. Barnett moved an amendment "That consideration of this remit be deferred for a year pending consultation with other national bodies concerned—Carried.

HORTICULTURAL SHOWS:—

- (5) That the Institute's Judging Rules be amended in view of modern requirements, viz. Carnations, Dahlia, Gladiolus, etc. It was agreed that Hydrangeas should have been mentioned also. It was considered that the final draft of the Horticultural Classification Report (Mr. M. J. Barnett) (Convener) should be included in the Judging Rules and

also that the various national bodies and major horticultural societies should be consulted.

- (6) That the Institute's Judges Register be brought up-to-date.
- (7) That Conference should consider the advisability of the preparation of standard regulations for the guidance of exhibitors for the use of such horticultural societies as may desire to adopt these.
- (8) That, as the existing methods of award of points prizes do not appear to be entirely satisfactory, consideration should be given to this matter.—Left to Executive Council with recommendation that every consideration be given to the R.H.S. system of award.

NATIONAL CENTENNIAL FLOWER SHOW, 1940:—

- (9) That appreciation be conveyed to the Hon. Minister of Internal Affairs for the grant of £100 towards the National Flower Show, 1940.

TREE PROTECTION:—

- (10) That this Conference views with satisfaction the action of the Government in taking steps to record and preserve Historic Trees throughout New Zealand.

Mr. Thomas suggested that all members should be asked to assist by forwarding particulars of any such trees and that this might be mentioned in the Journal.

WILD LIFE MANAGEMENT:—

- (11) Conference desires to express its appreciation of the efforts of the Hon. Minister of Internal Affairs towards the improvement of matters relating to wild life management, especially with regard to the proposal to set up a biological committee. (The value or otherwise of many species of the more numerous birds is practically unknown in New Zealand, and this is a matter which vitally affects our primary and other national interests. There are also many unknown factors relating to so-called vermin control about which biological research has far too long been delayed.)

Dr. W. R. B. Oliver, in moving the remit in the absence of Captain E. V. Sanderson, considered the best help could be given in the teaching of biology. A good deal of information is available but more is essential. The main thing is to educate the public. Biology should be taught in season and out of season and it should be a compulsory subject. Mr. McPherson, in seconding the motion, stated that the Wild Life question had been neglected and that no Department requires more encouragement than that of Internal Affairs. A system of biological control is required with a small biological section under this Department. The President said the whole basis of any effort must be the establishment of a bio-

logical laboratory charged with the ascertainment of facts and it would not be possible to take effective action without such facts.

GOVERNMENT GRANT:—

- (12) That thanks be conveyed to the Hon. Minister of Agriculture for his continuance of the annual grant of £100.

ROAD BEAUTIFICATION:—

- (14) That this Conference expresses to the Hon. Minister of Internal Affairs its appreciation of the grant of £50 towards publication, as a Bulletin of the Institute, of Mr. M. R. Skipworth's Diploma Thesis on "Road Beautification in New Zealand," and also of the assistance given in its distribution.

STANDARDISED RULES:—

- (15) That appreciation be conveyed to the Director-General of Agriculture of the issue by the Horticulture Division of Standardised Rules for the judging of Apples, Pears and Citrus Fruits.—Recommended for incorporation in the Institute's Judging Rules.

LATE REMITS ADOPTED.

EDUCATIONAL:—

- (16) That Section 4 (b) in the Scheme of Training and Examinations for the Institute's Certificates in Florists' Art should approve, for the purpose of the examinations, qualified art teachers other than those attached to a School of Art. Refer to Executive Council for submission to the Examining Board with power to act.

MEMBERSHIP:—

- (17) "That groups of under thirty members be permitted to affiliate for an annual fee of five shillings—other bodies to remain as at present." Refer to Executive Council for consideration. It was pointed out that such groups could affiliate with the nearest horticultural society.

CENTENNIAL MEMORIALS:—

- (18) "That the Committee of the East Harbour Horticultural Society suggests to the Institute that it may be fitting to arrange that some flower, raised in New Zealand, be given a registered name associating such flower with the New Zealand Centennial." Refer to Executive Council with the suggestion that the remit should be referred to the New Zealand Horticultural Trades' Association.—Carried.
- (20) "That the Hon. Minister of Internal Affairs be congratulated for pushing forward projects for Parks and Bush Preservation as Centennial Memorials." Mr. Thomas—Miss Kibblewhite.—Carried.

SCENERY PRESERVATION:—

- (19) "In all Primary and Secondary Schools and other educational institutions, the question of the preservation of scenery and the value of all places of beauty should be the subject of addresses and lectures"—Carried. Refer to the Education Department as a subject for consideration. Advise that this Institute notes with gratification the good work that is being done in primary schools and hopes that it will continue.

NATIONAL HORTICULTURAL WEEK, 1941:—

Invitation from Oamaru was extended at the previous Conference. Mr. Tannock said that Otago would assist with arrangements and Canterbury made a similar offer. Mr. J. G. MacKenzie—Mr. J. A. McPherson moved "That it be a recommendation to the Joint Committee that National Horticultural Week, 1941, be held at Oamaru."

THANKS:—

A vote of thanks was passed to (a) the Deputy Mayor for extending a civic welcome to delegates attending National Horticultural Week, 1940; (b) Sir Harry Batterbee, High Commissioner for the United Kingdom, for officially opening the National Centennial Flower Show, 1940; (c) The Directors and Officials of the New Zealand Centennial Exhibition for assistance so willingly given at all times and hospitality to National Centennial Flower Show, 1940, officials and representatives; (d) Mrs. G. S. Nicoll, Convener and the Ladies' Committee which had entertained the delegates and visiting ladies during National Horticultural Week; (e) The Press for publicity given to National Horticultural Week and the National Centennial Flower Show and (f) Mr G. S. Nicoll, Secretary for Arrangements in connection with National Horticultural Week, 1940.

Mr. Percy Thomson expressed thanks on behalf of visiting ladies and delegates for hospitality and entertainment extended at Wellington during National Horticultural Week, 1940.

A vote of thanks was passed to the President for his able and courteous conduct of the Conference.

BANKS LECTURE:—

The Banks Lecture for 1940 was delivered in the Dominion Museum Lecture Hall, Wellington, by Professor H. B. Kirk, Victoria University College. The subject of the lecture "Tree Ferns and other Ferns" was dealt with interestingly and was well illustrated with lantern slides. The lecture will appear in next issue and it will make a valuable addition to those already printed.

LODER CUP COMPETITION, 1939.

The Loder Cup, which was presented as a challenge cup in 1926 by the late Gerald W. Loder (afterwards Lord Wakehurst) to the lovers of Nature in New Zealand, has been awarded, in respect of the competition for the year ended 30th November, 1939, to Mr. William Alexander Thomson, Halfway Bush, Dunedin, who was nominated by the University of Otago and the Otago Branch of the Royal Society of New Zealand.

The cup is competed for annually in accordance with such conditions as might be approved by the Minister of Agriculture, in whose custody the cup was placed. The cup was formerly awarded annually to the winner of an open competition for New Zealand plants staged at specified national flower shows in the four centres in turn.

A new Loder Cup committee then decided that the intention of the donor of the cup, "to encourage the protection and cultivation of the incomparable flora of the Dominion," could be better met by an alteration in the conditions, and the cup is awarded annually to the person or body of persons who do most to further the aims and objects of the donor of the cup. In arriving at its award, the committee works along the lines of the Nobel Peace Prize.

Mr. Thomson is widely known in New Zealand, and especially in Otago, as an energetic field botanist and a keen horticulturist, with a special devotion to native plants. During the past forty years he has done remarkable and arduous pioneering work among the mountains of Otago and in the Fiord region. He has shed much light on the botany of those areas, and freely helped other workers, notably the late Mr. Petrie, Mr. Cheeseman, and Dr. L. Cockayne. Botanical institutions and gardens abroad, especially the Royal Botanic Gardens at Kew, have also benefited from his labours. He remains keen and active both in the field and in the garden. To botanists his name will always be remembered by such rarities as *Celmisia Thomsoni* and *Olearia Thomsoni*. His published work includes a paper on the vegetation of the Hollyford Valley, with the late D. L. Poppelwell, and one on a remarkable *Senecio* hybrid, with Dr. H. H. Allan.

He has paid considerable attention to hybridism, and has lectured before the Royal Society of New Zealand on that subject. In his garden, several extraordinary hybrids, of botanical and horticultural interest, have spontaneously arisen. Moreover, he has done experimental work on *Celmisia*, *Hebe* and other groups. Of especial note is his cultivation and hybridization of various members of the native mistletoes.

Since 1900 he has preserved several acres of native forest within the boundaries of the city of Dunedin, and he is an honorary ranger for forest preservation in Otago. His garden at Halfway Bush, charmingly enshrining his famous "Fern-Tree House," is in some respects the most remarkable in New Zealand, with its rare

hybrids and its 1200 species of natives, very largely collected by himself, and representing the flora both of South and North Islands. Mr. Thomson is always pleased to demonstrate his treasures to visiting botanists and horticulturists, who have included such distinguished persons as the late Dr. Lhotsky, of Holland, and Sir Arthur Hill, Director of the Botanic Gardens, Kew.

NATIONAL HORTICULTURAL WEEK CONDITIONS.

Conditions governing National Horticultural Week were first adopted at Dunedin at the 1935 Annual Conferences of the New Zealand Institute of Horticulture and the New Zealand Horticultural Trades' Association respectively. These were revised at a recent meeting of the Joint Committee and are now placed on record:—

1) A Joint Permanent Committee shall be established (comprising two representatives from each of the national bodies participating in National Horticultural Week and the National Flower Show, to be elected annually by each such body), with power to arrange dates and main features. One representative from each body shall form a quorum. (2) All questions of finance are to be dealt with by the representatives of the guaranteeing bodies only, viz., the Royal New Zealand Institute of Horticulture, Inc., and the New Zealand Horticultural Trades Association, Inc., each of which shall share equally with the participating Horticultural Society or Societies, or as may be mutually agreed upon by all such guaranteeing bodies, in any net profit or net loss arising from the National Flower Show and, unless notice to the contrary is issued by any such guaranteeing body during National Horticultural Week, such co-operation shall be deemed to continue for the succeeding year. (3) Application from any centre for National Horticultural Week shall be in the hands of the Dominion Secretary of the Royal New Zealand Institute of Horticulture not later than the end of November in each year, i.e., approximately fifteen months preceding the Week and the Dominion Secretary shall be regarded as the Secretary for all arrangements in connection therewith. (4) Each of the participating national bodies shall consider all such applications at its succeeding annual conference and shall then indicate its preference as to the venue of the next National Horticultural Week and shall immediately report its decision to the said Dominion Secretary for final determination by the said Joint Permanent Committee. (5) The draft schedule of the National Flower Show shall be submitted to the said Joint Permanent Committee before printing and such schedule, in addition to inclusion in the participating Horticultural Society or Societies schedule or schedules, shall be issued as separates. The Joint Permanent Committee shall advise particulars of all perpetual trophies, etc., and any necessary engraving shall be carried out by and shall be the liability of the local National Flower Show Executive. (6) The Institute's Annual Banks Lecture shall be arranged by the Dominion

Council of the Institute and the Dominion Secretary shall be supplied by the local Secretary, before the end of November in each year, with a list of names for local invitations thereto. (7) A hall for the various Conferences, including the Banks Lecture, shall be pencilled in by the local Secretary, who shall advise the Dominion Secretary accordingly together with the name, address and proposed rent of the hall before the end of November. (8) The programme of National Horticultural Week shall be as follows:—

Tuesday: Combined Official Opening of National Horticultural Week and of National Flower Show, also Civic Welcome to delegates, at 2.30 p.m. (This will be the only public function of the week.) The number of speakers should be limited so that the whole opening ceremony should not exceed twenty minutes. The Show will be open to the public from 2 p.m.

Annual Conference of the Association of Directors of Parks and Reserves in morning at a time and place to be arranged.

Annual Conference of Horticultural Seedsmen's Association of New Zealand in evening at a time and place to be arranged.

Wednesday: Official photograph at 8.45 a.m., prior to commencement at 9 a.m. of the Annual Conference of the New Zealand Horticultural Trades' Association (all day and evening—if necessary).

Continuation of Annual Conference of the Association of Directors of Parks and Reserves after Official Photograph.

National Flower Show will be open from 10 a.m. to 10 p.m.

Thursday: Annual Conference of Royal New Zealand Institute of Horticulture, opening at 10 a.m.—morning and afternoon.

Friday: Annual Conference of New Zealand Florists' Telegraphic Exchange at 9 a.m.

NOTES.

Attention is directed to (5) requiring submission of the draft schedule. (6) The list mentioned usually consists of a list of members of the Horticultural Society and addresses plus names of members of local authorities and all other representative bodies, who might be interested, although not necessarily members of a horticultural society. (7) The usual attendance at the Banks Lecture does not warrant a large hall. The lecture is illustrated with lantern slides. (8) It is suggested that the local committee should be representative of the Institute, New Zealand Horticultural Trades' Association, Horticultural Seedmen's Association of New Zealand, Association of Directors of Parks and Reserves, Florists, etc., in association with representatives of the Horticultural Society running the National Flower Show and of any other assisting Horticultural Society.

The President of the National Horticultural Week and National Flower Show Executive introduces whoever performs the combined official opening after His Worship the Mayor has extended a civic welcome to the delegates to National Horticultural Week. There is no other public function during the week.

The Directors of Parks and Reserves make their own arrange-

ments as their Conference is usually held in a municipal building.

The first time that Conference delegates meet is for the official photograph, for which local arrangements should be made. Opportunity is then taken to distribute the programme for the week and identification labels. The visiting ladies and delegates not engaged at the New Zealand Horticultural Trades' Association's Conference are usually looked after by a local committee, mainly ladies.

Thursday is reserved for the Institute, with the Banks Lecture in the evening, and it is specially requested that no outings be arranged for this day. This does not apply to any entertainment, during the day, of visiting ladies not attending the Institute's Conference.

The Annual Conference of the New Zealand Florists' Exchange ends the week and Friday is the usual day if it is desired to have an outing for visitors.

NATIONAL HORTICULTURAL WEEK, 1941.

The Joint Permanent Committee has agreed that Oamaru shall be the venue of National Horticultural Week, 1941, and the North Otago Horticultural Society has been advised accordingly. The Week will commence either on Sunday, 2nd February, or 9th February, whichever is the most suitable for District conditions.

J. A. CAMPBELL MEMORIAL AWARD, 1939.

The annual interest on the J. A. Campbell Memorial Fund is to be used to provide an award of approved books to the most successful student each year in the Institute's Intermediate Examination.

The first award, in respect of the 1939 Examination, has been made to Mr. J. W. Goodwin, of Christchurch, to whom warmest congratulations are extended.

EXAMINATION PAPERS, NOVEMBER, 1939.

JUNIOR EXAMINATION (Syllabus No. 1.)

HORTICULTURAL BOTANY.

(Time allowed—Three Hours.)

NOTE.—SIX ONLY of the following questions are to be answered, including No. 8, which is compulsory. Use diagrams where these illustrate your remarks.

1. Describe the stem of any herbaceous plant known to you—its form, structure, and uses.
2. What parts of plants may be modified to form climbing organs? Give examples.
3. Name any plant grown in the vegetable garden, and state the essentials for its complete, healthy growth up to the stage at which it is used.
4. Give an account of **either** respiration **or** photosynthesis.
5. In what ways do plants obtain their supplies of nitrogen?
6. Give a classification of the main types of fruits, with examples.
7. What are the essential features of sex in plants that must be known to the plant-breeder?
8. Describe as exactly as you can the botanical specimen supplied by the supervisor. Use your own language where you are not certain of the technical terms.

JUNIOR EXAMINATION (Syllabus No. 1.)

PRINCIPLES OF PLANT PROTECTION.

(Time allowed—Three Hours.)

NOTE.—SIX ONLY of the following questions are to be answered. Use diagrams where these illustrate your remarks.

1. Give an account of the morphology and life cycle of an eel-worm.
2. Describe the methods of preparing bordeaux mixture and burgundy mixture. Outline the advantages and disadvantages attending their use.
3. Compare colloidal sulphur with lime sulphur, and explain the purposes for which each should be used.
4. Discuss the method of overwintering and dissemination of fireblight of fruit trees.
5. What methods would one employ to identify some specific virus diseases of tomato?
6. Outline the life history of San Jose scale.
7. Discuss the hot water treatment of bulbs.
8. Compare a mould with a downy-mildew and discuss their morphology and methods of reproduction.

INTERMEDIATE EXAMINATION (Syllabus No. 2.)

PRINCIPLES OF HORTICULTURE.

(Time allowed—Three Hours.)

NOTE.—SIX ONLY of the following questions are to be answered.

1. What information is supplied in the official soil surveys which are being made?
2. Describe a soil profile, conditions and location most suitable for any commercial horticultural crop you may select.
3. What are the principal physical properties of soils? How may they be modified to the advantage of horticultural practice?
4. What are the plant conditions indicating deficiency, also excess, in nitrogen, potash and phosphates? Prescribe treatment in a few selected cases.
5. Write a short essay on the relation of light to plant growth; dealing especially with intensity and duration of light periods.
6. When transplanting trees and shrubs, pruning is usually essential. What is the object and the method of carrying out such pruning?
7. Name three plants that are best propagated by layering. Describe the method and the best time and conditions for effecting this.
8. Describe a plant association best suited to land which dries out for a period in summer; **or** one suited to a locality where the summer period is mild and humid.

INTERMEDIATE EXAMINATION (Syllabus No. 2.)

PRACTICE OF HORTICULTURE.

(Time allowed—Three hours, including Special Subject.)

NOTE.—THREE ONLY of the following questions are to be answered; also THREE ONLY of the questions on the Special Subject nominated.

1. Describe the various methods of facilitating and expediting germination of different kinds of seeds.
2. What are the different forms of nitrogen used in cropping? When and how may each be used to best advantage?
3. Describe the method of ploughing a paddock. In the case of a contract, what particular details would you specify?
4. With reference to garden accounts, describe the method of keeping a Day Book and give a few specimen entries. What is its purpose?
5. Write a short essay on potting composts.
6. Give a list of ornamental shrubs best suited for an exposed position on the coast.

INTERMEDIATE EXAMINATION (Syllabus No. 2.)

Special Subject.—THE FLOWER GARDEN IN ALL ITS ASPECTS.

(Time allowed—Three hours, including “Practice of Horticulture.”)

NOTE.—THREE ONLY of the following questions are to be answered; also THREE ONLY from the paper on “Practice of Horticulture.”

1. Write a short essay on the Tulip under the following headings:—
 - (a) Class of soil, (b) Time and depth of planting, (c) Manures, (d) Lighting and storing. Include the names of twelve varieties stating colours.
2. Name nine sorts of plants suitable for “Carpet” bedding and state how they are propagated.
3. What flowering plants would you select for shady situations? Name four bulbous and six non-bulbous plants.
4. Write fully on the cultivation of the Perpetual and the Border varieties of Carnations. State best method of propagating each.
5. It is desired to have a supply of cut flowers from the open ground throughout the year. Name the kinds, that can be grown in your district, for each month of the year.
6. Select not less than six sorts of plants suitable for a dry border or bank and give details of each.

NOTE.—The same paper was used for the Diploma Examination without proviso as to the number of questions.

INTERMEDIATE EXAMINATION (Syllabus No. 2.)

Special Subject.—TREES AND SHRUBS TOGETHER WITH THEIR PROPAGATION AND USE IN HORTICULTURE.

(Time allowed—Three hours, including “Practice of Horticulture.”)

NOTE.—THREE ONLY of the following questions are to be answered; also THREE ONLY from the paper on “Practice of Horticulture.”

1. Write an essay on the genus *Rhododendron* including *Azalea*.
2. Show by diagram how you would plant a gully or dell, having a shady and a sunny side, with trees and shrubs.
3. What native trees or shrubs, suitable to your district, would you select for shelter planting.
4. Select nine kinds of shrubs and say when and how these should be pruned.
5. What is the native habitat of the following plants?
 - (1) *Abelia rupestris*.
 - (2) *Ailanthus glandulosa*.
 - (3) *Arbutus andrachne*.
 - (4) *Choisya ternata*.
 - (5) *Deafontainea spinosa*.
 - (6) *Embothrium coccineum*.
 - (7) *Olearia Haastii*.
 - (8) *Pittosporum Tobira*.

6. Name three books of reference that you have studied with brief notes on their authors.

NOTE.—The same paper was used for the Diploma Examination without proviso as to the number of questions.

DIPLOMA EXAMINATION (Syllabus No. 3.)

PRINCIPLES AND PRACTICE OF HORTICULTURE.

(Time allowed—Three Hours.)

NOTE.—SIX ONLY of the following questions are to be answered.

1. Discuss the use of sulphate of ammonia and nitrate of soda on crops. What other nitrogenous manures are used in New Zealand? When should they be given preference?
2. Write a short essay on hydroponics or hormones.
3. When and how should ornamental shrubs and climbers be pruned? Describe the pruning of typical examples.
4. Write a short essay on Magnolias or Rhododendrons or Camellias and their use and treatment.
5. Discuss the essential points in grafting plants and the best means of dealing with them.
6. What pests and diseases of plants, under glass, may be controlled by fumigation? Name the fumigant, dosage and precautions in each case.
7. Describe fully the method of keeping lawns in high condition in "your" locality.
8. Write a short essay on atmospheric humidity for plants growing under glass.

DIPLOMA EXAMINATION (Syllabus No. 3.)

Special Subject.—FRUITGROWING.

(Time allowed—Three Hours.)

1. Describe the class of soil, conditions and location best suited to a commercial orchard of apples, or stone fruit, or citrus fruit in New Zealand.
2. Write a short essay on the pollination of stone fruit.
3. Describe the different methods of ploughing an orchard. Under what circumstances may each method be used to advantage?
4. Specify a stationary spray pump installation suited to a ten acre orchard—including a plan of the arrangement.
5. Describe the pruning of peach trees at all stages of development.
6. Describe the best methods for the commercial production of strawberries, or dessert grapes grown outside, or raspberries, in any special locality, and discuss the chief problems in that connection.

DIPLOMA EXAMINATION (Syllabus No. 3.)

Special Subject.—ROCK GARDENING.

(Time allowed—Three hours.)

NOTE.—Use diagrams where necessary to illustrate your answers.

Question No. 1. is compulsory.

1. Write an essay on the general construction of a Rock Garden under the following headings:—
 - (1) Aspect.
 - (2) Choice of materials.
 - (3) Drainage.
 - (4) Grouping of stones.
 - (5) Choice of plants for shady and for sunny positions.
2. What do you understand by a “dry wall”? Explain how it is built and name plants suitable for planting therein according to any aspect you may decide.
3. Give a list of nine lime loving plants and of nine bulbous plants suitable for a rock-garden.
4. Write a short essay on **one only** of the following Genera, Dianthus, or Ranunculus or Campanula, suitable for a Rock-garden.

DIPLOMA EXAMINATION (Syllabus No. 3.)

Special Subject.—VEGETABLE GARDENING.

(Time allowed—Three hours.)

1. Describe the methods of potato growing in Pukekohe and Canterbury.
2. Write an essay on the commercial production of Celery, or Asparagus, on a scale large enough for the use of tractor or horse implements.
3. What are the natural conditions best suited to the production of Cabbage and Cauliflower in the spring and winter respectively? Name the most suitable varieties and describe methods of production.
4. What are the conditions under which “certified seed potatoes” are best grown? Describe the method.
5. Write a short essay on vegetable seeds.
6. Discuss the respective merits of suitable land at Lower Hutt, Palmerston North, and Ohakune for commercial vegetable culture.

DIPLOMA EXAMINATION (Syllabus No. 3.)

Special Subject.—The Systematic Botany of the Families, and the leading genera, concerned in Horticulture.

NOTE.—SIX ONLY of the following questions are to be answered. Illustrate your answers by sketches, where useful.

1. Define the classes and series (sub-divisions of the classes) of the Angiosperms (flowering plants). Name up to five families in each sub-division.
2. (a) Define the terms: corymb, zygomorphous, pappus, monadelphous, perigynous. (b) What features of the flower differentiate a member of the Rosaceae from a member of the Ranunculaceae?
3. State the essential features of the Gymnospermae. How are the Taxaceae distinguished from the Pinaceae? Indicate by examples the horticultural importance of these families.
4. How are the Liliaceae distinguished from the Iridaceae? Mention two genera of horticultural importance in each family. Discuss the horticultural value of any indigenous species of Liliaceae.
5. Describe, with notes on important genera, any one of the following families: Caryophyllaceae, Papaveraceae, Malviaceae, Geraniaceae, Violaceae.
6. What indigenous genera are of horticultural importance in the Scrophulariaceae? How may they be distinguished?
7. How is a grass (Gramineae) distinguished from a sedge (Cyperaceae)? Name three genera of grasses that contain species of horticultural value, and indicate how they may be recognized.

INSTITUTE NOTES.

PERSONAL:—At the March meeting of the Executive Council it was mentioned that Mr. F. S. Pope (President) had been laid up for several weeks and that the Dominion Secretary (Mr. G. S. Nicoll) had been absent from duty through illness for a considerable period following immediately after National Horticultural Week, 1940. Sympathy was extended to both officers and pleasure at their recoveries.

A further expression of best wishes for a speedy recovery was directed to be conveyed to Mr. C. W. Corner, Napier.

EDUCATIONAL:—Mr. T. D. Lennie, Convener of Examinations at Christchurch, has resigned this office after twelve years of most efficient service. The resignation was forwarded to the Examining Board with an expression of the Executive Council's warmest thanks. The Examining Board also has conveyed its deep regret and keen appreciation of valued services.

1939 Examinations:—The following passes have been recorded:—Junior Certificate: E. L. Bent (New Plymouth); Intermediate Certificate: J. W. Goodwin (Christchurch), Miss P. R. Long and J. L. M. Tannoek (Dunedin) and D. Reston (New Plymouth); Diploma: Miss E. Baillie (Wellington), R. G. Cooper (Greymouth), P. Everett (North Auckland), H. G. Gilpin (Christchurch), D. C. MacKenzie (Wellington), N. A. Malcolm (Feilding), H. P. Thomas (Invercargill) and W. S. Watters (Auckland).

Lectures in Horticulture:—The Canterbury District Council's Syllabus, for 1940, of lectures in Horticulture at the Christchurch Technical College was recently referred by the Executive Council to the Examining Board, with a direction to convey the Executive's congratulations. The Examining Board has complimented the Canterbury District Council and has drawn the attention of other District Councils to this excellent programme.

In this connection, the Honorary Secretary of the Taranaki District Council has been running a class, since the beginning of last year at the New Plymouth Technical High School, in preparation mainly for the Institute's examinations. Special attention is given to plant protection, general botany, classification and ecology. The recent examination results evidence the practical value of this teaching. In conjunction with the addresses at the Institute's monthly meetings, this is an entirely satisfactory programme.

EXAMINATIONS AMENDMENT:—Students and other persons interested are requested to note the following Amendment to the Scheme of Training and Examination:—Page 4 under SYLLABUS

No. 1 substitute for second paragraph:—

“General Experimental Science and Chemistry.—These subjects as they are prescribed for the Public Service Entrance Examination conducted by the Education Department. The Examining Board may, for the purposes of this paragraph, recognize equivalent examinations.”

It will be noted that the subject of Agriculture has now been omitted.

TIMARU HORTICULTURAL SOCIETY:—Congratulations have been extended to the Timaru Horticultural Society on the attainment of its Seventieth Anniversary. In connection with its Autumn Show, which was combined with the Dahlia Society of New Zealand's South Island Show, a Dinner was held on the 12th March last to commemorate the Anniversary. Unfortunately, neither the President nor the Dominion Secretary was able to attend through illness.

NATIONAL CENTENNIAL FLOWER SHOW, 1940:—The Institute has received its half share, viz. £200 of the first allocation of profits from the recent National Centennial Flower Show, and heartiest congratulations have been conveyed on the staging of a show, which undoubtedly set a standard of uniformly high quality.

GARDEN COMPETITION:—A print of Mr. and Mrs. W. Milne Shand's winning garden in the Centennial Garden Competition of the Canterbury Horticultural Society, shown by Mrs. Knox Gilmer at a recent Executive Council Meeting, was noted with interest.

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Royal New Zealand Institute of Horticulture

(INCORPORATED).

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Dominion Secretary: G. S. NICOLL, P.O. Box 1237, Wellington.

Hon. Secretaries of Local District Councils:

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