

## **Reprint**

**as at 6 November 2008**

# **Royal New Zealand Institute of Horticulture Examinations Approval Notice 1957**

(SR 1957/149)

Royal New Zealand Institute of Horticulture Examinations Approval Notice 1957: revoked, on 6 November 2008, by clause 3 of the Regulations Revocation Order 2008 (SR 2008/367).

PURSUANT to the Royal New Zealand Institute of Horticulture Act 1953, the Minister of Agriculture hereby gives the following notice:

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#### **Note**

Changes authorised by section 17C of the Acts and Regulations Publication Act 1989 have been made in this eprint.

A general outline of these changes is set out in the notes at the end of this eprint, together with other explanatory material about this eprint.

**These regulations are administered in the Department of Agriculture.**

**of the Royal New Zealand Institute of Horticulture  
Incorporated**

**Schedule 3**

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**Scheme of Training and Examination of Candidates  
for the Certificate in School Gardening of the Royal  
New Zealand Institute of Horticulture Incorporated**

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**1**

This notice may be cited as the Royal New Zealand Institute of Horticulture Examinations Approval Notice 1957.

**2**

The Minister of Agriculture hereby approves of the schemes of training and examination submitted by the Examining Board of the Royal New Zealand Institute of Horticulture Incorporated with the authority of the said Institute for the granting of—

- (a) Certificates and Diplomas in horticulture as set out in Schedule 1 hereto; and
- (b) Certificates and Diplomas in fruit culture as set out in Schedule 2 hereto; and
- (c) Certificates in School Gardening as set out in Schedule 3 hereto.

**3**

The Institute of Horticulture Examinations Order 1951<sup>1</sup> is hereby revoked:

Provided that this revocation shall not affect the validity of any certificate or diploma properly granted or any act properly done before the date of this notice under any scheme approved by that order.

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**Schedule 1**

**Scheme of training and examination of  
candidates for Certificates and National  
Diploma in Horticulture of the Royal**

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<sup>1</sup> SR 1951/176

## **New Zealand Institute of Horticulture Incorporated**

**1**

In this Schedule, unless the context otherwise requires,—

**Diploma** means the National Diploma in Horticulture [NDH (NZ)] granted by the Institute

**Garden** means any botanic, institutional, municipal, nursery, or private garden

**Institute** means the Royal New Zealand Institute of Horticulture Incorporated

**Intermediate Certificate** means the Intermediate Certificate in Horticulture granted by the Institute

**Junior Certificate** means the Junior Certificate in Horticulture granted by the Institute.

### **2 Award of certificates and diploma**

The Institute, on the recommendation of the Examining Board, may issue a Junior Certificate to a candidate who has passed the Junior Examination, an Intermediate Certificate to a candidate who has passed the Intermediate Examination, and a Diploma to a candidate who has passed the Diploma Examination:

Provided in each case that the candidate has satisfied all the conditions prescribed by the Board for the appropriate examination.

### **3 General requirements**

- (1) The Examinations shall be open to candidates of either sex.
- (2) Before being eligible to qualify for any Certificate or the Diploma of the Institute, a candidate shall comply with the following conditions—
  - (a) He shall register his name with the Institute:  
Provided that no registration shall be effective before the 1st day of January nearest the candidate's sixteenth birthday:
  - (b) He shall, on registration, furnish evidence that he has completed a course in Form II or has a qualification which the Examining Board accepts as an equivalent or

higher qualification; or he shall satisfy the Examining Board that he is competent to proceed with the examinations of the Institute:

- (c) He shall submit for the approval of the Examining Board an account, in the form of a diary, of the work in which he has been engaged and of such other matters of horticultural interest as have engaged his attention, which diary shall be submitted by junior candidates on or before the 30th day of June in the year in which they intend to sit the examination, and by Intermediate Candidates on or before the 30th day of September in the year in which they intend to sit the examination:
- (d) He shall satisfy the Examining Board that he has had satisfactory practical experience in horticulture in a garden, including a substantial amount of practical work in horticulture in a garden, for the period prescribed for the examination concerned (hereafter in this Schedule referred to as practical experience):

Provided that if the Examining Board considers that the diary submitted by the candidate under paragraph (c) of this subclause is not satisfactory it may require the said period to be extended for such further term as it may determine.

#### 4 Equivalent status

For the purpose of the award of a Certificate or a Diploma the Examining Board may, in its discretion,—

- (a) Accept a pass in an equivalent or higher examination held by some competent public authority, as equivalent to a pass in the corresponding or a lower examination of the Institute; or accept a pass in one or more subjects of such an examination as equivalent to a pass in one or more corresponding subjects of the Institute's examinations:
- (b) Waive any of the conditions of the examination if the Examining Board is satisfied that substantially equivalent conditions have been complied with by the candidate.

## **5 Conduct of examinations**

- (1) The examinations for the Institute's Certificates and Diploma shall be held in the month of November in each year at such centres as may be recognised by the Examining Board from year to year as suitable and necessary.
- (2) Every candidate for an examination shall, not later than the 31st day of July immediately preceding the examination, give notice in such manner as the Examining Board may determine of his intention to sit the examination:  
Provided that any application in respect of examinations conducted by the Education Department shall be forwarded to the Director of Education, Wellington C1.

## **6 Examination fees**

Every candidate for examination in respect of examinations conducted by the Institute shall pay to the Institute a fee of 10s 6d for each subject.

## **7 Subjects of examination**

- (1) The subjects for the Junior Examination, Intermediate Examination, and Diploma Examination shall be as follows:

### *Junior Examination*

- (1) General science or chemistry, as prescribed for the School Certificate Examination conducted under regulation 6 of the Education (Post-primary Instruction) Regulations 1954<sup>2</sup>:
- (2) Bookkeeping:
- (3) Horticultural botany:
- (4) Plant protection (stage I):
- (5) Oral and practical examination (stage I):

### *Intermediate Examination*

- (6) Principles of botanical classification:
- (7) Horticulture (stage I) (2 papers):
- (8) Special subject selected from the following:

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<sup>2</sup> SR 1954/120

- (i) The flower garden in all its aspects, including culture under glass:
  - (ii) Vegetable growing, including culture under glass:
  - (iii) Nursery management:
  - (iv) Trees and shrubs, their propagation, use, and management in horticulture:
- (9) Oral and practical examination (stage II):
- Diploma Examination*
- (10) Horticulture (stage II) (2 papers):
  - (11) Plant protection (stage II):
  - (12) Oral and practical examination (stage III):
  - (13) Thesis.
- (2) Notwithstanding anything in subclause (1) of this clause, the subject bookkeeping may be deferred and taken as part of the Intermediate Examination at any time before the examination is completed.
- (3) The oral and practical examinations at each stage shall be combined, and the oral questions shall be asked mainly about the demonstration, practical operation, and identification performed by the candidate.

## 8 Pass conditions

- (1) A pass in the Junior Examination shall not be awarded until the candidate has passed in all the subjects of that examination other than bookkeeping, and has satisfied the Examining Board that he has had two years' satisfactory practical experience in horticulture in a garden:
- Provided that the period may be reduced to one year in the case of a candidate who has passed the said School Certificate Examination or an examination which the Examining Board accepts as an equivalent or higher examination, and who was registered not earlier than the 1st day of January nearest his seventeenth birthday.
- (2) The subjects general science or chemistry, bookkeeping, and horticultural botany may be taken at the examinations held in

the month of November next following the registration of the candidate or at any subsequent examination:

Provided that they shall not be taken at the examinations held in November next following the registration of the candidate if the registration was effected later than the 30 day of April in the year in which the examinations are held.

- (3) The subject plant protection (stage I) and the oral and practical examination (stage I) shall not be taken until the period of practical experience referred to in subclause (1) of this clause has been completed.
- (4) A pass in the Intermediate Examination shall not be awarded until the candidate has passed all the subjects of that examination, and has satisfied the Examining Board that he has had two years' satisfactory practical experience in horticulture in a garden after passing the Junior Examination, or has had not less than four years in all of such practical experience.
- (5) The subject principles of botanical classification and the special subject may be taken at the November examinations following the passing of the Junior Examination or at any examinations thereafter. The subject horticulture (stage I) and the oral and practical examination (stage II) shall not be taken until the practical experience required for the award of an Intermediate Certificate has been obtained.
- (6) A pass in the Diploma Examination shall not be awarded until the candidate has passed all the subjects of that examination, and has satisfied the Examining Board that he has had two years' satisfactory practical experience in horticulture in a garden after passing the Intermediate Examination, or has had not less than six years in all of such practical experience.
- (7) The subject plant protection (stage II) may be taken at the November examinations following the passing of the Intermediate Examination or at any examinations thereafter. The subject horticulture (stage II) and the oral and practical examination (stage III) shall not be taken until the practical experience required for the award of the Diploma has been obtained.
- (8) Where the required period of practical experience will end not later than the 31st day of March in any year it may be assumed, but only for the purpose of entering for an examination, to have

ended on the 31st day of October of the preceding year if the candidate undertakes to continue in his employment till the required period of practical experience is completed.

- (9) The thesis for the Diploma shall be submitted to the Examining Board not later than the 30th day of September in the year of the examination, and not before the candidate is eligible to be examined in the subject horticulture (stage II) and for the oral and practical examination (stage III).
- (10) One or more subjects may be taken at a time, and a candidate may be credited with a pass in one or more subjects.
- (11) Notwithstanding the condition laid down in subclauses (5) and (7) of this clause, if a candidate requires only one subject to complete a pass in one of the examinations, he may, if the Examining Board agrees, proceed with those subjects of the next higher examination which he would have been permitted to take had he secured a complete pass in the lower examination, but he shall not be credited with a pass in more than two subjects of the higher examination until he has completed all the requirements for a pass in the lower examination.
- (12) Notwithstanding anything hereinbefore provided, in the event of any student producing to the Examining Board evidence, in such form as it shall deem sufficient, of his intention to leave the Dominion for the purpose of pursuing his horticultural studies abroad, the Board may approve of the student presenting himself for the examination for the Junior or Intermediate Certificate, or for the Diploma, after one of the two years of practical experience prescribed at that stage for the Certificate or Diploma for which he desires to sit. If in any such case the candidate passes the examination, he shall be provisionally recognised as having done so, but the appropriate Certificate or Diploma shall not be issued until he produces satisfactory evidence of the completion by him of the required period of practical experience.

Schedule 1 was amended, as from 8 September 1961, by regulation 2(a)(i) Royal New Zealand Institute of Horticulture Examinations Approval Notice 1957, Amendment No 1 (SR 1961/121) by substituting the words "30 day of April" for the words "31 day of March".



**9 Thesis**

Every candidate for the Diploma shall present a thesis dealing concisely with a horticultural subject approved by the Examining Board. The candidate's choice of subject shall be submitted for the approval of the Examining Board not less than eight months before the date of the examination. In this thesis the candidate shall describe some work actually carried out by him and shall make explicit reference to any work he regards as original. He shall also append a bibliography of the subject. The thesis, together with a statutory declaration (in a form obtainable from the Institute) to the effect that it is substantially the candidate's own work, shall be submitted to the Examining Board not later than the 30th day of September in the year of the examination. The Examining Board shall examine the thesis and decide whether it is satisfactory. The thesis shall be regarded as the property of the candidate, and shall be returned to him as soon as the decision of the Board is made.

**10 Examination of university graduates**

Notwithstanding anything hereinbefore provided, any person holding the degree of Bachelor of Science of any University in New Zealand or any degree or diploma which the Examining Board accepts as equivalent to or higher than that degree shall be eligible to sit for the Diploma Examination if he has passed in botany in the course for the degree or diploma; and

- (a) He has completed two years' practical general horticultural training in New Zealand to the satisfaction of the Examining Board; or
- (b) He has had not less than four hundred hours' working experience to the satisfaction of the Examining Board in horticulture in a garden together with either—
  - (i) Not less than two years' experience as a teacher of horticulture or some closely allied subject, including adequate practical work approved by the Examining Board; or
  - (ii) Not less than two years' experience in fruit growing, forestry, seed work, or any other branch of

specialised horticulture approved by the Examining Board.

Schedule 1 was amended, as from 8 September 1961, by regulation 2(a)(ii) Royal New Zealand Institute of Horticulture Examinations Approval Notice 1957, Amendment No 1 (SR 1961/121) by substituting the words “any University of New Zealand” for the words “the University of New Zealand”.

**11 Qualification for extra certificates**

A candidate who has passed the Diploma Examination may qualify for a certificate in respect of any of the special subjects mentioned in item (8) of subclause (1) of clause 7 of this Schedule other than the special subject in which he passed in the Intermediate Examination:

Provided that the candidate will be expected to show a deeper and more complete knowledge of the special subject for this certificate than is required in respect of the corresponding special subject in the Intermediate Examination:

Provided also that there shall be a period of at least one year between the passing of the Diploma Examination and the examination for the certificate:

Provided further that only one special subject may be taken in any one year.

**12 Notification of results**

Candidates shall be notified of the results of the examinations at the earliest possible opportunity.

**13 Prescriptions of subjects**

The prescriptions in the subjects of the examinations shall be as follows:

*Junior Examination*

(1) *General Science or Chemistry*

The prescriptions for these subjects shall be those for the time being in force for the subjects for the School Certificate Examination conducted under regulation 6 of the Education (Post-primary Instruction) Regulations 1954<sup>3</sup>:

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<sup>3</sup> SR 1954/120

(2) *Bookkeeping*

The recording of straight forward cash and credit transactions in cash book, journal, and ledger; the preparation of a gross revenue and expenditure account, profit and loss account, and balance sheet; the keeping of time sheets and wages books; tax deductions from wages; elementary knowledge of banking, insurance, and general commercial practice:

(3) *Horticultural Botany*

The candidate shall have had practice in the use of the hand lens and the drawing pencil and shall show a satisfactory elementary knowledge of the following, based on observation and simple experiments:

- (a) The structure of plants, based on a study of the organs of a typical fern, herb, shrub, and tree: the main life-forms of flowering plants — for example, annuals, biennials, perennials, rhizomatous plants, creeping plants, and climbing plants; and
- (b) Modifications of plant organs for special functions, with particular reference to water and food storage organs, drought resistance, climbers, symbiosis; and
- (c) The processes of nutrition, with special reference to absorption, translocation, and transpiration of water, together with the intake of food materials from the air and soil; carbon assimilation, nitrogen assimilation, and respiration; the elaboration of foods within the plant, especially carbohydrates and proteins, their consumption and storage; and
- (d) Methods of reproduction, asexual and sexual, with special reference to their importance for plant propagation and plant breeding; and
- (e) The relation of the plant to its environment, including the influence of soils, water, light, temperature, wind; the chief resultant plant formations — for example, forest, shrub, grassland, swamps, with reference to their horticultural significance:

(4) *Plant Protection (Stage I)*

Causes and symptoms of plant disease;  
Symptoms of attack by insects and other pests;

Symptoms of virus infection;  
Effects of temperature and moisture on the incidence of pests and diseases;  
General hygiene connected with the production of horticultural crops;  
Glasshouse hygiene;  
Preparation and methods of use of the commoner horticultural sprays, with examples of the more important pests and diseases against which they are used;  
Health hazards connected with the use of spray materials;  
Certification of therapeutants;  
Disinfection of soil, seeds, and bulbs:

(5) *Oral and Practical Examination (Stage I)*

Propagation of plants by seeds, hard-wood and soft-wood cuttings, division, and layering;  
The care and use of garden tools and implements, including those motor driven; the care and use of glasshouse equipment;  
Common operations in the garden — for example, preparation of composts, seed sowing, pricking out of seedlings, hardening off; potting up and potting on, care of glasshouse plants, digging and trenching, lining out and wrenching, preparation of seed beds, staking and tying of plants;  
Identification of common pests and diseases, and their control;  
Identification, origin, and proper use of commoner trees, shrubs, and herbaceous plants, especially plants indigenous to New Zealand and amenable to cultivation;  
Identification of weeds:

*Intermediate Examination*

(6) *Principles of Botanical Classification*

The divisions of the plant kingdom, with special reference to the major distinctions between the following groups — namely, bacteria, algae, fungi, mosses, liverworts, ferns, gymnosperms, monocotyledons, dicotyledons;  
Elementary knowledge of the commoner families of plants met with in horticulture, especially—

Coniferae	Umbelliferae
Gramineae	Ericaceae
Amaryllidaceae	Primulaceae
Liliaceae	Gentianaceae
Iridaceae	Convolvulaceae
Orchidaceae	Boraginaceae
Caryophyllaceae	Labiatae
Ranunculaceae	Solanaceae
Cruciferae	Scrophulariaceae
Saxifragaceae	Caprifoliaceae
Rosaceae	Cucurbitaceae
Leguminosae	Campanulaceae
Geraniaceae	Compositae
Myrtaceae	

and the recognition of the more important genera and species of the said families cultivated in gardens:

(7) *Horticulture (Stage I) (2 papers)*

*Soils and Soil Management:* The origin and classification of soils; their chief constituents and physical properties — for example, their water-holding power, heat-absorbing power, porosity, capillarity, texture and structure; the chemical constituents of soil and of the soil solution; the functions of sand, silt, clay, and humus in various forms; the principles and practice of the various garden operations of digging, trenching, hoeing, cultivating, and fallowing soils; drainage, mulching, and watering; conservation and control of soil moisture; measures by which soil fertility may be improved and maintained; preparation of soil for seed sowing and for planting; the use of various tools and equipment;

*Lawn Management:* Preparation of soil; selection of seed mixtures; sowing and general maintenance of lawns;

*Plant Propagation:* Structure of root, stem, bud, leaf, and seed; principles and practice of propagating common plants and trees by seed, cuttings, budding, grafting, layering, inarching, subdivision, and by tubers, corms, and bulbs; conditions necessary for propagation in each case; composts for seed sowing and potting;

*Pruning:* General principles and practice of pruning common plants of all kinds for various purposes;

*Rotation of Crops:* Its object and methods with particular reference to the vegetable garden; succession and intercropping;

*Surveying:* Simple equipment and methods for determining areas, levels, and grades; preparation of simple sketch maps showing contours, gradients, drain levels, etc;

*Hormones in Horticulture:* A general knowledge of the practical use of hormones:

(8) *Special Subject*

Chosen from the list of special subjects set out in item (8) of subclause (1) of clause 7 of this Schedule, namely—

- (i) The flower garden in all its aspects, including culture under glass;
- (ii) Vegetable growing, including culture under glass;
- (iii) Nursery management;
- (iv) Trees and shrubs, their propagation, use, and management in horticulture:

(9) *Oral and Practical Examination (Stage II)*

Propagation of plants by budding, grafting, inarching, stem rooting, leaf cuttings, and the more difficult types of hardwood cuttings; also different types of stocks;

Pruning and planting trees and shrubs, and time of pruning;

Lawns — preparation, sowing, turfing, and maintenance;

Types of glasshouse construction and heating;

Types and construction of shade houses and frames;

Identification of pests and diseases and their control;

Identification of trees, shrubs, and other plants, their propagation and use;

The culture of vegetable and fruit crops;

The student should submit a garden plan, not necessarily his own work, for discussion on planting:

*Diploma Examination*

(10) *Horticulture (Stage II)* (2 papers)

A knowledge of subject No 7 is assumed;

*Fertilisers and Manures:* The physical and chemical properties of the various fertilisers available, and of lime; the method of use and function of each in plant growth and its effect on the soil; the use of fertilisers and manures for different plants, soils, and climates; the composition and valuation of fertilisers; the composition and value of common animal manures; the manufacture and use of compost;

*Mineral Deficiencies:* Symptoms and treatment of common mineral deficiencies;

*Soil Biology:* Bacteria and protozoa of soil; nitrification and denitrification; decomposition of humus and value of leguminous crops; earthworms and soil fertility;

*Horticultural Plant Ecology:* The plant in relation to its environment of soil, heat, light, moisture, wind; the garden as a plant community; a knowledge of the principal soil types and climatic regions within New Zealand and the plants associated with them;

*Drainage:* Application of drainage to surface and subsoils; methods, equipment, and material used in draining; planning layout under various topographical and soil conditions;

*Irrigation and Watering:* Methods and equipment used in applying water to lawns, playing fields, garden plots, glasshouses, etc;

*Plant Breeding and Seed Saving:* The methods of raising new types and varieties by selection and controlled pollination; methods of saving, storage, and treatment of seeds of flowers and trees, including the native plants of New Zealand;

*Plant Propagation:* The propagation of the less common and more difficult types of plants and trees from seed and by vegetative propagation; the different types of stocks;

*Pruning:* Pruning of trees and shrubs; tree surgery; treatment of wounds;

*Selection and Planting of Shrubs, Trees, and Herbaceous Plants:* A general knowledge of the different trees and shrubs for ornamental, shelter, and forest purposes; the soil and climatic preferences of plants and trees; planting and subsequent management; lifting and transport of shrubs and trees from one site to another; a knowledge of the culture of flowering plants for cut flowers and bedding displays;

*Glasshouses:* Glasshouse construction, ventilation, heating, and management; culture of flowers and ornamentals under glass;

*Garden Design and Planting:* Garden design and specification, including terraces, steps, dry walls, ponds, and rock gardens; selection and use of different plants for particular purposes in the garden;

*Weed Control:* Methods, equipment, and materials used for control of weeds in lawns, playing fields, paths, and gardens:

(11) *Plant Protection (Stage II)*

A knowledge of subject No 4 is assumed;

Morphology, habits of life, life history, general classification, means of spread and methods of control of fungi, insects, and other pests attacking horticultural crops;

Bacterial diseases and methods of control;

Virus diseases and methods of control;

Principles and methods of control of pests and diseases by sterilisation with steam, heat, and chemicals; hot water treatment, chemical steeps and dips, sprays, dusts, and fumigants, hygiene, crop rotation, elimination of host weeds, soil management;

Plant resistance;

Biological control;

Plant quarantine procedure;

Legislation relating to plant diseases and pests;

General chemical properties of the various groups of fungicides, bactericides, insecticides, nematicides;

Compatibility;



Use of antibiotics in the control of plant diseases:

(12) *Oral and Practical Examination (Stage III)*

Tree surgery and pruning of specimen trees and all types of trees and shrubs;

Acclimatisation of plants (including bulbs) from the northern hemisphere and elsewhere;

Preparing and packing flowers for transit or market;

Harvesting and storing both vegetable and flower seeds;

Self-pollination and cross-pollination of flowers;

Instruments and equipment used in survey and mapping; their use and care;

Official soil surveys and their use in horticultural planting and cropping, including vegetables and fruit;

Estimates in garden construction; for example, the cut and fill required to level a given area, the amount of metal required for a specified path or road; methods of soil drainage;

Sprays and spraying for control of plant diseases and pests;

Identification of plants, their propagation and use in the garden;

The candidate shall submit for discussion an original survey and coloured plan (his own work) of a garden not less than half an acre in extent, or of a well equipped general nursery designed in accord with modern practice:

(13) *Thesis*

As prescribed in clause 9 of this Schedule.

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## Schedule 2

### **Scheme of training and examination of candidates for the Certificates and National Diploma in Fruit Culture of the Royal New Zealand Institute of Horticulture Incorporated**

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- (1) In this scheme, unless the context otherwise requires,—

**Diploma** means the National Diploma in Fruit Culture [NDFC (NZ)] granted by the Institute

**Intermediate Certificate** means the Intermediate Certificate in Fruit Culture granted by the Institute

**Junior Certificate** means the Junior Certificate in Fruit Culture granted by the Institute

**Orchard** means any commercial or domestic orchard.

- (2) Subject to the provisions of subclause (1) of this clause, unless the context otherwise requires, terms defined in Schedule 1 to this notice shall, when used in this Schedule, have the meanings assigned to them in that Schedule.

## 2 Award of certificates and diploma

The Examining Board, acting for and on behalf of the Institute, may issue a Junior Certificate to a candidate who has passed the Junior Examination, an Intermediate Certificate to a candidate who has passed the Intermediate Examination, and a Diploma to a candidate who has passed the Diploma Examination:

Provided in each case that the candidate satisfies all the conditions prescribed by the Board for the appropriate examination.

## 3 General requirements

- (1) The examination shall be open to candidates of either sex.
- (2) Before being eligible to qualify for any Certificate or the Diploma of the Institute, a candidate shall comply with the following conditions:
- (a) He shall register his name with the Institute:  
Provided that no registration shall be effective before the 1st day of January nearest the candidate's sixteenth birthday:
- (b) He shall, on registration, furnish evidence that he has completed a course in Form II or has a qualification which the Examining Board accepts as an equivalent or higher qualification; or he shall satisfy the Examining Board that he is competent to proceed with the examination of the Institute:

- (c) He shall submit for the approval of the Examining Board on such occasions as it may require an account, in the form of a diary, of the work in which he has been engaged, and of such other matters of horticultural interest as have engaged his attention:
- (d) He shall satisfy the Examining Board that he has had satisfactory practical experience in fruit culture, including a substantial amount of practical work in fruit culture in an orchard, for the period prescribed for the examination concerned (hereafter in this Schedule referred to as practical experience):

Provided that if the Examining Board considers that the diary submitted by the candidate under paragraph (c) of this subclause is not satisfactory it may require the said period to be extended for such further term as the Examining Board may determine.

#### **4 Equivalent status**

For the purposes of the award of a Certificate or a Diploma the Examining Board may, in its discretion,—

- (a) Accept a pass in an equivalent or higher examination held by some competent public authority as equivalent to a pass in the corresponding or a lower examination of the Institute; or accept a pass in one or more corresponding subjects of the Institute's examinations:
- (b) Waive any of the conditions of the examination if the Examining Board is satisfied that substantially equivalent conditions have been complied with by the candidate.

#### **5 Conduct of examinations**

- (1) The examinations for the Institute's Certificates and Diploma shall be held in the month of November in each year at such centres as may be recognised by the Examining Board from year to year as suitable and necessary:

Provided that oral and practical examinations for the Intermediate Certificate and the Diploma in Fruit Culture may be held at times and places specified by the Examining Board.

- (2) Every candidate for an examination shall, not later than the 31st day of July preceding the examination, give notice in such manner as the Examining Board may determine, of his intention to sit the examination:

Provided that any application in respect of examinations conducted by the Education Department shall be forwarded to the Director of Education, Wellington C1

## 6 Examination fees

Every candidate for examination in respect of examinations conducted by the Institute shall pay to the Institute a fee of 10s 6d for each subject.

## 7 Subjects of Examination

- (1) The subjects for the Junior Examination, Intermediate Examination, and Diploma Examination shall be:

### *Junior Examination*

- (1) General science or chemistry, as prescribed for the school Certificate Examination conducted under regulation 6 of the Education (Post-primary Instruction) Regulations 1954<sup>4</sup>;
- (2) Bookkeeping;
- (3) Horticultural botany;
- (4) Plant protection (stage I);
- (5) Oral and practical examination (stage I):

### *Intermediate Examination*

- (6) Horticulture (stage I) (2 papers);
- (7) Fruit culture (stage I) (2 papers);
- (8) Oral and practical examination (stage II):

### *Diploma Examination*

- (9) Plant protection (stage II);
- (10) Horticultural economics;
- (11) Fruit culture (stage II) (2 papers);
- (12) Oral and practical examination (stage III);
- (13) Thesis.

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<sup>4</sup> SR 1954/120

- (2) The oral and practical examinations at each stage shall be combined and the oral questions shall be asked mainly about the demonstration, practical operation, and identification performed by the candidate.

## **8 Pass Conditions**

- (1) A pass in the Junior Examination shall not be awarded until the candidate has passed in all the subjects of that examination and has satisfied the Examining Board that he has had two years' satisfactory practical experience in fruit culture in an orchard: Provided that the period may be reduced to one year in the case of a candidate who has passed the School Certificate Examination or an examination which the Examining Board accepts as an equivalent or higher examination and who has registered not earlier than the 1st day of January nearest his seventeenth birthday.
- (2) The subjects general science or chemistry, bookkeeping, and horticultural botany may be taken at the examinations held in the month of November next following the registration of the candidate or at any subsequent examination:  
Provided that they shall not be taken at the examinations held in the month of November next following the registration of the candidate if the registration was effected later than the 30th day of April in the year in which the examinations are held.
- (3) The subject plant protection (stage I) and the oral and practical examination (stage I) shall not be taken until the period of practical experience referred to in subclause (1) of this clause has been completed.
- (4) A pass in the Intermediate Examination shall not be awarded until the candidate has passed all the subjects of that examination and has satisfied the Examining Board that he has had two years' satisfactory practical experience in fruit culture in an orchard after passing the Junior Examination, or has had not less than four years in all of such practical experience.
- (5) The subject horticulture (stage I) may be taken at the November examinations following the passing of the Junior Examination or at any examinations thereafter. The subject fruit culture (stage I) and the oral and practical examination (stage II)

shall not be taken until the practical experience referred to in subclause (4) of this clause has been completed.

- (6) A pass in the Diploma Examination shall not be awarded until the candidate has passed all the subjects of that examination, and has satisfied the Examining Board that he has had two years' satisfactory practical experience in fruit culture in an orchard after passing the Intermediate Examination, or has had not less than six years in all of such experience, as may be accepted by the Examining Board.
- (7) The subjects plant protection (stage II) and horticultural economics may be taken at the November examination following the passing of the Intermediate Examination or at any examination thereafter. The subject fruit culture (stage II) and the oral and practical examination (stage III) shall not be taken until the practical experience required for the award of the Diploma has been obtained.
- (8) Where the required period of practical experience will end not later than the 31st day of March in any year it may be assumed, but only for the purpose of entering for an examination, to have ended on the 31st day of October of the preceding year if the candidate undertakes to continue in his employment until the required period of practical experience is completed.
- (9) The thesis for the Diploma shall be submitted to the Examining Board within three months after completing the examination, or by such later date as may be determined by the Board and not before the candidate is eligible to be examined in the subject fruit culture (stage II) and for the oral and practical examination (stage III).
- (10) One or more subjects may be taken at a time, and a candidate may be credited with a pass in one or more subjects.
- (11) Notwithstanding the conditions laid down in subclauses (5) and (7) of this clause, if a candidate requires only one subject to complete a pass in one of the examinations, he may, if the Examining Board agrees, proceed with those subjects of the next higher examination which he would have been permitted to take had he secured a complete pass in the lower examination, but he shall not be credited with a pass in more than two subjects of the higher examination until he

has completed all the requirements for a pass in the lower examination.

- (12) Notwithstanding anything hereinbefore provided, in the event of any student producing to the Examining Board evidence, in such form as it shall deem sufficient, of his intention to leave the Dominion for the purpose of pursuing his horticultural studies abroad, the Board may approve of the student presenting himself for the examination for the Junior or Intermediate Certificate, or for the Diploma, after one of the two years of practical experience prescribed at that stage for the Certificate or Diploma for which he desires to sit. If in any such case the candidate passes the examination, he shall be provisionally recognised as having done so, but the appropriate Certificate or Diploma shall not be issued until he produces satisfactory evidence of the completion by him of the required period of practical experience.

Clause 8(2) was amended, as from 8 September 1961, by regulation 2(b)(i) Royal New Zealand Institute of Horticulture Examinations Approval Notice 1957, Amendment No 1 (SR 1961/121) by substituting the words “30 day of April” for the words “31 day of March”.

## **9 Thesis**

Every candidate for the Diploma shall submit a thesis dealing concisely with a special subject, or with some portion of a special subject, to be chosen by the candidate, and approved by the Examining Board. The candidate's choice of subject shall be submitted for the approval of the Examining Board not less than eight months before the date of the examination. In the thesis the candidate shall describe some work actually carried out by him. The credit to be assigned to the thesis shall depend upon the evidence afforded of ability to summarise previous knowledge, to carry out good practical work, and to make independent observations. The thesis, together with a statutory declaration (in a form obtainable from the Institute) to the effect that it is substantially the candidate's own work, shall be submitted to the Examining Board not later than the 30th day of September in the year of the examination. The Examining Board shall examine the thesis, and decide whether it is satisfactory. The thesis shall be regarded as the property

of the candidate, and shall be returned to him as soon as the decision of the Board is made.

**10 Examination of University Graduates**

Notwithstanding anything hereinbefore provided, any person holding the degree of Bachelor of Science of any University in New Zealand or any degree or diploma which the Examining Board accepts as equivalent to or higher than that degree shall be eligible to sit for the Diploma Examination, if he has passed in botany in the course for the degree or diploma; and

- (a) He has completed two years' practical general training in fruit culture in an orchard in New Zealand to the satisfaction of the Examining Board; or
- (b) He has had working experience in fruit culture for not less than four hundred hours in an orchard, together with either not less than two years' experience as a teacher of horticulture or some subject which in the opinion of the Examining Board is closely allied to horticulture, including adequate practical work; or not less than two years' experience in commercial fruit production or in a fruit tree nursery.

Clause 10 was amended, as from 8 September 1961, by regulation 2(b)(ii) Royal New Zealand Institute of Horticulture Examinations Approval Notice 1957, Amendment No 1 (SR 1961/121) by substituting the words "any University of New Zealand" for the words "the University of New Zealand".

**11 Notification of results**

Candidates shall be notified of the results of the examination at the earliest possible opportunity.

**Prescription of subjects**

*Junior examination*

- 12** The prescriptions in the subjects of this examination shall be as follows:



(1) *General Science or Chemistry.*

(2) *Bookkeeping*

(3) *Horticultural Botany*

(4) *Plant Protection (Stage I)*

As set forth for the relevant subjects in clause 13 of Schedule 1 to this notice.

(5) *Oral and Practical Examination (Stage I)*

Propagation of shelter plants by seeds and cuttings;

Propagation of vegetable plants by seeds, subdivision, and tubers;

Preparation of seed sowing and pricking out composts;

Preparation of seed beds and seed boxes;

Digging and trenching;

Pricking out seedlings;

Planting trees, shrubs, and plants;

Identification of common trees, shrubs, fruit trees, vegetables, and weeds;

Identification of common insect pests and fungus diseases;

The use and care of garden implements;

Staking and tying plants:

*Intermediate Examination*

(6) *Horticulture (Stage I):* (As set forth for the relevant subject in clause 13 of Schedule 1 to this notice):

(7) *Fruit Culture (Stage I)* (2 papers)

*Plant Propagation:* The general methods of propagating fruit trees and fruiting plants; budding, grafting, and inarching;

*Drainage:* Application of drainage to surface and subsoil in orchards; the methods, equipment, and material used in draining; planning the layout under various topographical and soil conditions in orchards;

*Soil Biology:* The bacteria and protozoa of soil; nitrification and denitrification; decomposition of organic matter and value of leguminous crops; earthworms and soil fertility;

*Fertilisers and Manures:* The physical and chemical properties of the various fertilisers available and of lime; the functions of each in plant growth and its effect on the soil; the composition and valuation of fertilisers; the composition and value of common animal manures; uses of fertilisers and manures under various soil and climatic conditions and for different fruit trees and fruiting plants; the symptoms and treatment of mineral deficiencies in fruit trees and fruiting plants;

*Shelter Belts:* The provision of shelter for orchards and fruit gardens; the kinds and uses of trees for shelter under different soil and climatic conditions;

*Orchard Establishment:* The soil and climatic preferences of fruit trees and fruiting plants; orchard layout; kinds and varieties of fruit; preparation of land for planting; grading for irrigation and contour planting; planting operations;

*Irrigation:* Methods and equipment used in applying water to orchards and fruit gardens;

*Pruning:* The general principles and practice of pruning and renovating the different kinds and main varieties of fruiting trees and plants; treatment of tree wounds;

*Protection from Frost:* The principles and practice of protecting fruit crops from frost damage:

(8) *Oral and Practical Examination (Stage II)*

Pruning fruit trees and treatment of wounds;

Methods of propagating fruit tree stocks;

Grafting fruit trees;

Inarching fruit trees;

Layout of drainage systems; methods of making drains; laying tiles;

The use of simple surveying equipment and demonstration of methods for determining areas, levels, and grades; methods for determining planting lines and tree positions when laying out new orchards;

Taking soil samples;

Identification and use of fertilisers and manures;

Mixing of sprays;

The use and application of sprays, dusts, fumigants, steeps, soil disinfectants, and soil sterilants;

The candidate shall submit a plan of an orchard with a planting list for his particular district:

*Diploma Examination*

Candidates will be expected to display a general knowledge of all branches of fruit culture, and a specialised knowledge of one of the following branches:

- (a) Pip fruit:
- (b) Stone fruit:
- (c) Citrus and sub-tropical fruits:
- (d) Berry fruits:
- (e) Grapes:

Notification of the branch of fruit culture in which the candidate is specialising must be made to the Secretary of the Royal New Zealand Institute of Horticulture at the time application is made to sit the Diploma Examination:

- (9) *Plant Protection (Stage II)*: (As set forth for the relevant subject in clause 13 of Schedule 1 to this notice):

A knowledge of subject No 4 is assumed.

- (10) *Horticultural Economics*

The use of orchard records and economics;

The value of the various kinds of fruit produced in New Zealand in relation to the economy of the country;

Economic factors which affect the selection of orchard sites and the location of orchard areas;

Economic aspects of pest and disease control;

Economic factors which influence mechanisation in orchards;

Cost of production;

Valuation of orchards;

Economic factors which influence the marketing of fruit locally and for export;

Fruit marketing authorities and fruit marketing methods;

Economic aspects of fruit storage and transport;

- Orchard management practices in relation to the economics of fruit production;  
Fruit production surveys;  
Orchard management studies:
- (11) *Fruit Culture (Stage II)* ( 2 papers)
- Plant Improvement:* The main principles underlying fruit tree and plant improvement by breeding and selection;  
*Plant Breeding:* The methods of raising new types and varieties of fruit by selection and controlled pollination;  
*Horticultural Plant Ecology:* Fruiting trees and plants in relation to their environment of soil, heat, light, moisture and wind.
- A knowledge of the principal soil types and climatic regions in New Zealand and their influence on fruit growing and production;
- Soil Management:* The principles and practices of ploughing, cultivation, and subsoiling; cultivation of orchards; cover crops, temporary leys and permanent sward for orchards; conservation and control of soil moisture; soil erosion control; soil improvement;
- Harvesting, Grading, and Packing Fruit:* The principles and practices associated with harvesting, grading, and packing fruit; a knowledge of the main regulations governing the grading and packing of fruit for local and export markets;
- Storage of Fruit:* The main principles governing the storage of fruit by different methods; cool storage and gas storage of fruit;
- Pruning:* Pruning of fruit trees and fruiting plants;
- Orchard Management:* Management of orchards and fruit gardens; thinning of fruit crops; estimating annual requirements of labour and materials for various sized orchards;
- Equipment:* The various implements, tractors, and spraying and dusting equipment used in orchards, fruit gardens, and grape houses; requirements for orchards of various sizes and types; design of packing sheds and arrangement of equipment;
- Hormones:* The practical use of hormones in fruit culture;
- Weed Control:* Control of weeds in orchards and fruit gardens;

*Glasshouses:* Glasshouse construction, heating, and ventilation for grapes, production of grapes under glass:

(12) *Oral and Practical Examination (Stage III)*

Self-pollination and cross-pollination;

Budding fruit trees;

Pruning of fruit trees;

Thinning fruit;

Harvesting fruit;

Grading fruit;

Packing fruit;

Storing fruit;

Orchard implements, their use, operation, and care;

Glasshouse construction, siting, heating, and ventilation;

Crop estimating;

Identification of insect pests and fungus, virus, bacterial, deficiency, and physiological diseases of fruit trees and fruiting plants;

Identification of orchard and shelter trees;

The use and application of sprays, dusts, fumigants, steeps, soil disinfectants and soil sterilants;

The candidate shall submit for discussion an original survey and scale plan of an established orchard of the type of fruit in which he is specialising:

(13) *Thesis:*

As prescribed in clause 9 of this Schedule.

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**Schedule 3**  
**Scheme of Training and Examination of**  
**Candidates for the Certificate in School**

## **Gardening of the Royal New Zealand Institute of Horticulture Incorporated**

### **1 Preliminary**

Unless the context otherwise requires, terms defined in Schedule 1 to this notice shall, when used in this Schedule, have the meanings assigned to them in that Schedule.

### **2 Award of Certificate in School Gardening**

The Institute on the recommendation of the Examining Board, may issue a Certificate in School Gardening to a candidate who has passed the Examination in School Gardening:

Provided in each case that the candidate has satisfied all the conditions prescribed by the Board for the examination.

### **3 General Requirements**

- (1) The examination will be open to candidates of either sex who are teachers, whether full-time or part-time, in public or private schools, including post-primary schools, or in training colleges, and to itinerant instructors assisting in the teaching of nature study and school gardening.
- (2) The candidate shall supply evidence, supplemented by diary records, that for a period of two years he has either done satisfactory work in charge of a school garden or has been an itinerant instructor in nature study or agriculture. Diaries shall be submitted by candidates on or before 30 September each year.

### **4 Equivalent status**

For the purposes of the award of the certificate the Examining Board may, in its discretion—

- (a) Accept a pass in an equivalent or higher examination held by some competent public authority as equivalent to a pass in the corresponding or a lower examination of the Institute; or accept a pass in one or more corresponding subjects of the Institute's examinations:

- (b) Waive any of the conditions of the examination if the Examining Board is satisfied that substantially equivalent conditions have been complied with by the candidate.

## **5 Conduct of examinations**

- (1) The examinations for the Institute's certificate shall be held in the month of November in each year at such centres as may be recognised by the Examining Board from year to year as suitable and necessary:

Provided that oral and practical examinations for the certificate may be held at times and places specified by the Examining Board.

- (2) Every candidate for an examination shall, not later than the 31st day of July preceding the examination, give notice in such manner as the Examining Board may determine of his intention to sit the examination:

Provided that any application in respect of examinations conducted by the Education Department shall be forwarded to the Director of Education, Wellington C1

## **6 Examination fees**

Every candidate for examination in respect of examinations conducted by the Institute shall pay to the Institute a fee of 10s 6d for each subject.

## **7 Subjects of examination**

- (1) The subjects for the Certificate in School Gardening shall be:

- (a) General Science or Chemistry.

- (b) Bookkeeping

As set forth for the relevant subjects in clause 13 of Schedule 1 to this notice.

- (a) General Science or Chemistry.
- (c) Horticultural Botany
- (d) Plant Protection (Stage I)
- (e) Oral and Practical Examination  
(Stage I)

The oral and practical examination shall be combined and the oral questions shall be asked mainly about the demonstration, practical operation, and identification performed by the candidate.

- (2) The candidate shall provide a detailed study of a particular school gardening problem or investigation.

## 8 Pass conditions

- (1) One or more subjects may be taken at a time, and a candidate may be credited with a pass in one or more subjects.
- (2) A pass in the Certificate in School Gardening shall not be awarded until the candidate has passed in all the subjects of that examination and has satisfied the Examining Board that for a period of two years he has had satisfactory experience in charge of a school garden or has been an itinerant instructor in nature study or agriculture.
- (3) The detailed study of a particular school gardening problem or investigation must be forwarded to the Examining Board on or before the 30th day of September preceding the examination.

## 9 Notification of results

Candidates shall be notified of the results of the examination at the earliest possible opportunity.

Dated at Wellington this 19th day of June 1957.

K J HOLYOAKE,  
Minister of Agriculture.



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### **Explanatory Note**

*This note is not part of the notice, but is intended to indicate its general effect.*

By this notice the Minister of Agriculture approves the schemes of training and examination submitted by the Examining Board of the Royal New Zealand Institute of Horticulture with the authority of that Institute in respect of the granting of Certificates and Diplomas in Horticulture and in Fruit Culture and Certificates in School Gardening.

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Issued under the authority of the Regulations Act 1936.  
Date of notification in *Gazette*: 27 June 1957.

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**Notes****1 *General***

This is an eprint of the Royal New Zealand Institute of Horticulture Examinations Approval Notice 1957. It incorporates all the amendments to the notice as at 6 November 2008. The list of amendments at the end of these notes specifies all the amendments incorporated into this eprint since 3 September 2007. Relevant provisions of any amending enactments that contain transitional, savings, or application provisions are also included, after the Principal enactment, in chronological order.

**2 *About this eprint***

This eprint has not been officialised. For more information about officialisation, please see “Making online legislation official” under “Status of legislation on this site” in the About section of this website.

**3 *List of amendments incorporated in this eprint (most recent first)***

Regulations Revocation Order 2008 (SR 2008/367): clause 3

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