

The Canterbury College School of Forestry, Canterbury College, Christchurch, New Zealand.

The Canterbury College School of Forestry is a professional school of forestry recognised as such in the statutes of the University of New Zealand.

WORK OF SCHOOL: The Work of the School consists of:

- (1) The giving of instruction in technical forestry, and
- (2) The carrying on of research into problems relating to forestry in New Zealand.

COURSES OF INSTRUCTION: The School provides three courses of instruction:

- (1) The Degree Course.
- (2) The Associate Course.
- (3) The Ranger Course.

The Degree and Associate Courses are designed for matriculated students desirous of becoming qualified technical foresters; while the Ranger Course caters for students, matriculated or non-matriculated, who desire to pursue a course of an essentially practical nature.

The Degree Course is that prescribed for the Degree of Bachelor of Forestry Science in the University of New Zealand, and covers four years' work, a first year in pure science and thereafter three years in professional forestry subjects as follows:—

First Year: (For Forestry Intermediate Examination)—Biology, Physics, Inorganic and Organic Chemistry.

Second Year: (For First Professional Examination)—Elements of Forestry, Forest Mensuration, Surveying and Drawing, Forest Botany, Forest Geology, Accountancy and Business Organisation.

Third year: (For Second Professional Examination)—Wood Technology and Properties of Materials, Dendrology, Forest Zoology, Forest Exploitation and Utilisation, Silviculture 1, Forest Management 1.

Fourth Year: (For Third Professional Examination)—Silviculture 11, Forest Management 11, Forest Protection, Forest Law, Policy and Administration, Economics, History and Development of Forestry, a Specialised Subject.

The Associate Course is a three-year course of theoretical and practical forestry leading to the Certificate of Associate of the School of Forestry, Canterbury College, a certificate issued by Canterbury College alone, and carrying with it no status in the

University of New Zealand. It is intended for students who, with a limited time at their disposal, wish to fit themselves for executive positions in forestry organisations. The professional work covered in this course is almost identical with that of the Degree course, but the preliminary year of study in pure science is omitted and the standard of work required is lower.

The Ranger Course comprises a series of lectures, laboratory and field work in forestry, covering two or three years according to the time and finances of the individual student. In scope the course is intensely practical, stress being laid on the field application of the work. The range of subjects to select from is the same as that set out above in the Degree Course, and the standard is lower than that required for the Associate Course. Matriculation is not required, as the course is open to all men who wish to profit by it. Certificates are granted by Canterbury College to those students successfully completing courses of study in this course.

FACILITIES FOR LABORATORY AND OTHER FIELD WORK.

The School of Forestry is a department of Canterbury College and enjoys the full use of all facilities provided there for lectures and laboratory work. The School possesses a library, forestry museum, laboratory, lecture and draughting room, while the well-equipped lecture room and laboratories in the Department of Biology are used for instruction in certain subjects. Surveying and drawing, etc., are dealt with by the School of Engineering, while such subjects as economics, accountancy, physics, chemistry and geology are dealt with in their respective College Departments.

A very large proportion of the forestry course consists of field work, and the School possesses unique facilities for carrying this out. Nearby are the Christchurch Botanic Gardens, Hagley Park, Riccarton Bush and the Bottle Lake Plantation, while within short motoring distances are the plantations of the Selwyn Plantation Board, Greendale Estate (belonging to the Canterbury College), and numerous private estates—all available for various branches of field work. A small experimental and demonstration forest nursery is attached to the School. The School possesses a car which enables field parties to be easily transported.

An annual field camp of three weeks is held during the spring vacation, when a varied programme of practical work is performed in connection with dendrology, silviculture, entomology, mensuration, utilisation, logging engineering, management, surveying, etc. The Camp is held alternately in Canterbury and Westland, thus gaining the full benefit of the wide range of forest types and technique presented.

During the autumn vacation of three weeks and the summer vacation of over three months, students usually gain field experience by obtaining employment with the State Forest Service or various private municipal forestry organisations.

RESEARCH: The staff and senior students of the School are actively engaged upon various lines of research into the native and exotic forests and many contributions have already been made to the literature of New Zealand forestry.

FURTHER INFORMATION: Full details as to prescriptions of courses, fees, etc., are provided in the illustrated prospectus of the School, obtainable on application to the Registrar, Canterbury College, Christchurch, who will furnish any further information required.

RESEARCH.

Progress in research and other original forestry work at the School of Forestry during the past year was made along the following lines:—

I. Investigations into Growth and Yield of Exotic Plantations in Canterbury.

This project, now in its fourth year, was again enlarged during the past winter, and has now attained such magnitude as to ensure that the data ultimately derived will be sufficiently representative to be reliable in drawing conclusions in regard to comparative rate of growth of different species on different sites as found in most parts of Canterbury. The system of sample plots now embraces fourteen in mid-Canterbury in the plantations of the Selwyn Plantation Board, seven in the plantations of the Mackenzie County Council, and two on the "Springbank" estate of H. B. S. Johnstone, Esq., at Otaio. The following species are under investigation:—*P. radiata*, 10 plots; *P. ponderosa*, 4 plots; *P. laricio*, 2 plots; Douglas fir, 4 plots; and larch, redwood, and *Cupressus macrocarpa* one plot each. A few of these plots are installed singly or in pairs to watch the result of experiments undertaken on a comparatively small scale, as the underplanting with pines of diseased eucalypt, and wattle scrub

stands. Most of them, however, are in definite sets of two or four plots for purpose of direct comparison of different species upon the same site, or one species upon differing qualities of site. On a number of plots four annual measurements are now to hand, and already a few inferences may be drawn in regard to comparative difficulty of establishment, optimum site conditions, and juvenile growth rate of the stands under investigation. From these results some tentative conclusions have been arrived at by D. Kennedy, student assistant, and are presented by him in an article appearing in this number of *Te Kura Ngahere*.

It is planned to augment the number of plots under observation from time to time, as opportunity offers, for the range of available species and sites is by no means exhausted, and the strengthening of the chain of plots will considerably add to the value of the derived data. The plots so far dealt with are purely observation plots for recording growth, development and mortality of the stands in which they are located. With a few more years of growth the two hundred acre experimental forest at Burnham, owned by Canterbury College, will provide a field for silvicultural investigations as thinning practice, cutting methods, etc., which will greatly stimulate the practical application of this project.

II. Westland Rimu Forest Silvical Investigation.

This project was a co-operative one made by the School of Forestry on behalf of the State Forest Service, and constituted the major research activity of the School in the year under review, Messrs. Foweraker and Hutchinson spending the greater part of the long vacation in the field on this work. The project was a continuation of the work begun by Mr. Foweraker in 1921 with a silvical investigation of the native forest types of Westland, and having as its ultimate aim the evolution of a feasible plan of management on a perpetual basis for the native forests.

The sections of the work carried out during the past summer were all initiated on the Westland Experimental Area, and dealt with the following:—

The seed production of the podocarps.

The seed and its germination.

The germination of the seed under natural conditions.

The relative power of the various podocarps to reach maturity and the conditions under which this is best attained.

Under these four heads investigations