

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

were made into the relative distribution of male and female trees; the cycle of seed production, seed years, and viability of seed; the extent of reproduction present under various conditions of mature forest, logged off areas, grassed and cleared areas, etc.; the range of effective distribution of seed; the silvical conditions affecting seedling growth and development, and the growth and development of rimu stands of various ages. These investigations led to the establishment of a series of permanent sample plots on which growth and development may be studied by means of periodic measurements. Some time must of necessity elapse before any definite conclusions can be drawn in regard to a number of the sections mentioned. However, concrete data was obtained under several of the investigations, and inferential data under others, and the report furnished to the State Forest Service at the conclusion of this summer's work contains ground for considerable optimism in regard to the physical possibility, should it be found economically desirable, of securing a reasonable natural reproduction of rimu stands following logging, within a reasonable time.

As a result of contact gained during the past summer, Mr. Hutchinson has set out in an article appearing in this issue of *Te Kura Ngahere* a hypothesis in regard to the growth and development of Westland rimu stands, which presents theories somewhat at variance with those generally accepted. It is hoped that this article will stimulate interest in this aspect of New Zealand forestry, and serve to provoke discussion and comment upon the views set forth.

III. Investigation into Minute Structure of Wood.

Further work has been done during the past year by Mr. C. S. Barker, for the Forest Service, under supervision of the School of Forestry, in studies of the anatomy of New Zealand woods. For the past year, in addition to minor projects as identification specimen of wood, etc., the principal work done has lain in the preparation and mounting of microscope sections of a great number of New Zealand woods, preparatory to the making of a detailed study and comparative analysis of structure. Most of the softwoods and a considerable number of the hardwoods native to New Zealand have now been treated in this way.

In addition to Mr. Barker's work just mentioned, the students of the regular course in wood technology at the School of Forestry have inaugurated during the past year a detailed comparative structure study of the native woods. A commencement has

been made with the three native members of the genus *Phyllocladus*, a genus not so far exhaustively treated of in any comparative structure studies of wood now available. This study will not be completed until next year, after which time it is planned to extend the work to other native timbers not heretofore thoroughly described.

Club and School Jottings.

FORESTRY CLUB.

The first meeting of the Forestry Club for the session of 1928 was held in the Forestry Laboratory, when the following new members were welcomed to the Club:— Messrs. C. Sando, from Victoria University College; F. J. Billings, from King Edward VI. Memorial College, England; P. G. Whitehead, of Dunedin; and L. Roberts and J. Martin, both of Christchurch.

The officers elected for the year were:— President, M. R. Skipworth; vice-President, D. Kennedy; Secretary-Treasurer, D. Turnbull; additional committee member, G. H. Hocking; editor of *Te Kura Ngahere*, C. T. Sando.

It was decided to change the date of election of officers to the last annual meeting of each year, the officers then elected to serve for the following year, as making for more continuity of policy than the old method.

After the election of officers, Mr. C. H. Reece, Forest Extension Officer in the State Forest Service, gave us an instructive lantern lecture on "Various Forestry Points of Interest in the South Island," showing some very interesting slides of the various plantations, homesteads, pruning operations, etc., with which he has come in contact during the last few years.

The next meeting was held on April 13th, when the President, Mr. Skipworth, gave an account of the afforestation by the Dunedin City Council. He described in some detail the work carried on at the various places under the Council's administration, and particularised on silvicultural practice, and on growth and yield. The different climatic conditions in the suburbs of Dunedin provoked considerable discussion.

On April 27th, Mr. and Mrs. F. E. Hutchinson entertained the Club at their home in Papanui. At this meeting, which took the form of a debate, the subject for discussion was that "the Exotic Plantations will be of more use to New Zealand than the Native Bush." Messrs. McLaren, Kennedy and Turnbull spoke for the motion, which was