

REPORTS OF RESEARCH COMMITTEES OF THE COUNCIL OF SCIENTIFIC AND INDUSTRIAL RESEARCH

BUILDING RESEARCH

Building Research Committee.—Mr. G. F. Wilson (Chairman), Mr. G. W. Albertson, Dr. J. C. Andrews, Mr. B. C. Ashwin, Mr. L. E. Brooker, Mr. R. A. Campbell, Mr. A. R. Entrican, Mr. F. W. Furkert, Mr. A. R. Galbraith, Professor C. R. Knight, Mr. L. J. McDonald, Dr. E. Marsden, Mr. J. Mawson, Mr. R. A. Patterson, Mr. C. W. O. Turner, Mr. F. J. A. Brogan (Secretary).

Research under the Committee's direction during the year has embraced—

- (i) Timber-protection research, including the study and methods of control of timber-infesting insects and fungi (Plant Diseases Division, Entomology Division, and State Advances Corporation).
- (ii) Causation and control of mould infestation in houses (Plant Diseases Division, Dominion Physical Laboratory, and State Advances Corporation).
- (iii) Investigations of a system of prefabrication in standard concrete and light-weight (pumice) concrete (Auckland University College—Building Research Panel).
- (iv) A review of literature on acoustics of buildings was made preparatory to carrying out experimental work, with particular reference, in the first instance, to multi-wall units (Auckland University College—Building Research Panel).

During the year the Committee gave special consideration to a report by the New Zealand Institute of Architects on proposals for earthquake reconstruction in earthquake-danger zones. A sub-committee set up to consider these proposals recommended that a national survey be made by the State of all buildings to determine their structural stability under earthquake stresses; that local investigating committees be set up under the co-ordination of Public Works Department; that the proposals for the classification of buildings drawn up by the New Zealand Institute of Architects be first referred to the Building Code Sectional Committee of the New Zealand Standards Institute for consideration of the question of further guidance for the local committees; and that the results of the survey be referred to the Building Code Sectional Committee for transmission to the Government with suitable recommendations. These recommendations were approved by the Building Research Committee and transmitted to the Hon. the Minister of Scientific and Industrial Research and the Hon. the Minister of Works for consideration by the Government.

The Committee recommended that equipment for testing the fire-resistance rating of building-materials should be provided by the Department of Scientific and Industrial Research so as to enable building-materials to be tested to conform with specifications drawn up by the Fire Resistance Rating Committee of the New Zealand Standards Institute. Consideration is at present being given to the selection of the most suitable type of equipment.

A considerable amount of investigatory and testing work on building-materials of all kinds undertaken at the Dominion Physical Laboratory and the Dominion Laboratory (including the Inter-Departmental Paint Investigation Committee) came under general review by the Committee, so that all work relating to building and building-materials could be co-ordinated as fully as possible.

Mr. J. L. Mandeno, of the Dominion Laboratory staff, returned to New Zealand in March, after spending several months at the Building Research Station, Watford, England, and visiting other institutions engaged in building materials research and testing in Great Britain and the United States of America.

Apart from Mr. Mandeno, the Committee has not yet been successful in obtaining the nucleus of research staff—*i.e.*, a director of research, an architect, and an engineer—which it considers essential to the proper planning, development, and co-ordination of a research programme.

TIMBER PROTECTION RESEARCH

Timber Protection Research Committee.—Mr. L. E. Brooker (Chairman), Mr. E. H. Walden, Dr. D. Miller, Dr. G. H. Cunningham, Mr. R. L. McPhail, Mr. R. L. Andrew, Mr. F. R. Callaghan, Mr. A. F. Clark (Secretary).

DOMINION LABORATORY

During the year the Laboratory has carried out chemical analyses and investigations required by the Committee.

ENTOMOLOGY DIVISION, PLANT RESEARCH BUREAU

Termites.—To date over four hundred samples of Australian termites collected in New Zealand have been examined; four species of *Coptotermes* have been identified in this material. Termites have also been collected and identified from imported power-poles and sleepers, and material has been sent from Pacific islands.

Valuable data, having a direct bearing on control, have been secured from a study of the biology of both the New Zealand *Calotermes browni* and the Australian species of *Coptotermes*. The results of this termite work have been published in part.

Wood-boring Beetles.—In addition to the termites, considerable work has been carried out on the biology of *Anobium*, *Ambeodontus*, wood-weevils, *Lyctus*, and pin-hole borers, and tables prepared comparing the various stages of development of these insects and also the type of damage done by each species.

In regard to timber-seasoning experiments, the results indicate that certain timbers may be attacked during the season that they are milled, while others are not susceptible until seasoned for one or more years.

Experiments are also being carried out to ascertain the optimum breeding-conditions for the common species of *Anobium*.