GAS TESTING

The gas-supplies of the four main centres and of most of the other main towns were regularly examined for calorific value, pressure, and freedom from sulphuretted hydrogen. All gas-meters put into service were tested and stamped before being passed for use.

PAPERS PUBLISHED

BRANDT, C. W. K., and ROSS, D. J.: "Podocarpic Acid as a Source of an Oestrogenic Hormone." *Nature* (1948), *161*, 892.

CHAMBERLAIN, E. E. (Plant Diseases Division), and CLARK, P. J.: "Investigations on Growing Pyrethrum in New Zealand—II: Yield and Pyrethrin Content of Flowers." *N.Z. Jl. Sci. & Tech.* (1947), *29*, 215.

CLARK, P. J.: CHAMBERLAIN, E. E. (Plant Diseases Division): and PROCTOR, C. H. (Plant Diseases Division): "Investigations on Growing Pyrethrum in New Zealand—III: Factors Influencing Pyrethrin Content of Flowers." *N.Z. Jl. Sci. & Tech.* (1947), *29*, 223.

DOMINION PHYSICAL LABORATORY

Director: Dr. E. R. COOPER

GENERAL PHYSICS

Frost Investigation, Hastings.—A field investigation into the atmospheric conditions accompanying frost in orchard areas was carried out in the Hastings area during the spring of 1948. In contrast to the work at Alexandra the previous year, the results suggest that fan installations might be of value in this district; the work is being continued during the coming Spring.

Measurement of Solar and Sky Radiation Received at the Earth's Surface.—Equipment is being developed that will automatically measure the spectral distribution of the visible and ultra-violet radiation received from the sun and sky at intervals throughout the day. Permanent observatory equipment is aimed at, the object being to obtain data for biological purposes year in and year out.

Domestic Water-heaters.—An investigation into the best designs of thermal insulation for domestic hot-water storage tanks has been used as a basis for the preparation, by the New Zealand Standards Institute, of a specification for such systems with a view to conserving electricity.

Tests on Synthetic-resin-impregnated Bearings.—These tests aim to determine the suitability of plastic-impregnated fabric bearings for control gates of hydro-electric power schemes. A machine has been constructed for measuring the coefficient of friction before and after prolonged working-conditions, which included immersion in water.

Tests on P.V.C. Overhead Power Cables.—The electrical and physical properties of P.V.C., and two other aerial cables in common use, are being compared under similar conditions of accelerated ageing.

Electron Microscope.—A laboratory for electron microscopy to serve all research workers in New Zealand has been established. Delivery was taken in the spring of 1948 of a commercial electron microscope from England, and it is now functioning satisfactorily. Lectures on the advantages and limitations of such an instrument and the special techniques used in the preparation of specimens have been given to most of its potential users, both within and outside the Department. To study these techniques, an officer of the Laboratory spent three months in Australia. Present indications are that the biggest field of work will be in the biological and medical sciences.

BUILDING RESEARCH

See under "Reports of Research Committees of the Council of Scientific and Industrial Research—Building Research."