

fermentations three laboratories are operating; bacteriology, mycology, and fermentation chemistry. One additional unit, assigned to the more specialized field of antibiotics and enzyme chemistry, is in prospect. Pilot-plant equipment for the evaluation of industrial fermentation processes has been designed and ordered and plans prepared for cold rooms, necessary in enzyme and microbiological studies.

The Division of Building Research, which started its work during 1948, was instituted by the Council in order to provide a research service to the construction industry of Canada. Attention has been concentrated on house construction. The Division is designing a special facility to be installed in the Prairie Regional Laboratory whereby complete wall sections (measuring up to 7 ft. by 8 ft.) can be tested under completely controlled conditions of temperature and humidity. A Building Code Conference, held Feb. 28 and Mar. 1, 1949, under the auspices of the Associate Committee on the National Building Code, was highly successful in bringing together inspectors, municipal officials, and other representatives of organizations concerned with the preparation, administration, or general use of municipal building codes.

A soil mechanics laboratory has been set up and work on snow and ice is proceeding in co-operation with other organizations interested in this field.

In the Pure Chemistry Branch, a variety of photochemical and other kinetic investigations have been made on ether, acetone, acetaldehyde, ethylene oxide and a number of hydrocarbons. Radioactive carbon is being used to label particular functional groups as desired in order to follow their course in some photochemical reactions. Measurements have been made of the adsorption of some simple gases on potassium chloride over a range of temperatures. In the section on thermodynamic properties of gases, the compressibility of pure helium has been measured with a high degree of accuracy in the temperature range 0°C. to 600°C. The mass spectrometer has been put into operation and is now being calibrated. Investigation of plants has been continued in search of new alkaloids and a few new natural bases have been discovered. Work has been continued on the study of the infra-red adsorption spectra of complex organic compounds, particularly of compounds of biological importance. The fibre section has continued the investigation of the acid dyeing of wool. A study of the various factors affecting the air permeability of fabrics has been initiated.

One of the functions of the Applied Chemistry Branch of the Division of Chemistry is to act in an advisory capacity to government departments in questions relating to the supply or the testing of chemicals. In addition the Branch has continued to carry on research on a number of projects in the fields of chemical engineering, textiles, corrosion, rubber, protective coatings, applied physical chemistry, industrial organic chemistry, and organic synthesis. These projects are directed mainly towards the application of new scientific knowledge in the chemical industrial field.

The Technical Information Service, which was set up to aid the development of manufacturing efficiency by answering technical questions for industry, deals with about 400 inquiries a month. Although most of the answers to these inquiries are prepared by the Council's staff, valuable assistance is provided by experts in several other organizations, especially the Forest Products Laboratories and the Bureau of Mines.