

Techniques have been developed for producing and measuring extremely low pressures in gases, and have enabled a study of gas-solid interactions at very low surface concentrations. Important progress has been made in the study and development of large ground-based rigid radomes for the weather-protection of missile tracking and guiding radars.

Extensive aurora and meteor programs were carried out in connection with the International Geophysical Year. The weather radar at Penhold, Alta., was modified considerably, and some 7,000 ft. of filmed data were contributed to the Alberta Hail Study program.

Medical Research.*—The Division of Medical Research has no laboratories of its own: it makes grants and awards fellowships for extramural research in Canadian universities and their affiliated institutions. Basic medical investigations and clinical studies are supported.

Twelve Medical Research Associates have been appointed to Canadian universities. These are competent medical research scientists nominated by universities, which provide them with faculty appointments and research facilities supported on a full-time continuing basis. Thirty-five Graduate Medical Research Fellowships, designed to enable medical graduates to obtain further training in fundamental research and ranging in value from \$3,000 to \$5,000, have also been awarded and a new category of award, that of senior Postdoctoral Medical Research Assistant, has been instituted.

Divisional funds for the year ended Mar. 31, 1960, were awarded as follows: annual grants in aid of research, \$461,500 (31 p.c. of the budget); grants for terms of three years or longer, \$639,500 (44 p.c.); non-recurring equipment grants, \$166,200 (12 p.c.); Medical Research Associateships, \$110,000 (7 p.c.); and Medical Research Fellowships, \$92,800 (6 p.c.).

Atlantic Regional Laboratory.—The Atlantic Regional Laboratory studies practical and fundamental problems related to the resources and industries of the Atlantic Provinces. The problem of slime in the "white water" of pulp mills has been investigated for some time. Several species of fungi in the slime, conditions affecting their growth, and the effectiveness of various fungicides have been established. Apparently the white water contains a substance which stimulates the growth of the organisms, and a project to isolate it and determine its structure is under way. Dosage tests have been carried out on test animals to ascertain the safe use for humans of a blood anticoagulant previously developed in the Laboratory. The use in Europe of dried seaweed as animal feed has led to comparison of the biological value of algal proteins.

Investigation of the factors controlling the deposition of pitch in sulphite pulp mills has continued and various detergents have been tested as dispersives. Another continuing project is the study of cod-skins and the collagen found in them that is used as the mother substance for photo-engraving glue. A chemical examination is being made of an extract of a red alga plentiful in some Atlantic areas and which the United States now imports from Denmark for commercial use.

Basic chemistry involved in the fabrication of steel constitutes a long-term project, involving years of study of the chemical reactions taking place at high temperatures in blast and open-hearth furnaces, and which affect the properties and processing of the final products. An apparatus for drying kelp and eel-grass—seaweeds of commercial importance in the Atlantic area—is being developed.

Prairie Regional Laboratory.—The function of the Prairie Regional Laboratory is to promote and expand industrial uses for agricultural produce of the prairie region. Together with this applied work, fundamental studies are carried out on the basic chemical

* See also pp. 427-429.