

by the Council, make recommendations as to researches which might be undertaken, issue reports, and keep closely in touch with the advances being made in their respective branches of science and technology.

The associate committees whose function it is to undertake research usually have in their membership representatives from other organizations prosecuting research or interested in the special problems which the committee was appointed to study. In this way co-operative researches are carried out with other government departments, both Dominion and Provincial, the universities, and various other organizations.

Research committees of the kind described have been established on animal diseases, biophysics, cereal rust, coal classification, field-crop diseases, grain research, heating and insulation, honey, laundry research, leather, magnesite, natural gas, New Brunswick forest problems, oceanography, smelter smoke, tuberculosis, weed control and wool growing and manufacture. This partial list of subjects gives some idea of the extent and character of the external work of the Council.

Assisted Researches.—Assisted researches are those carried out in other laboratories than those of the National Research Council, and to which the Council has made a financial contribution for the purchase of equipment not ordinarily found in scientific laboratories, or for the provision of technical assistance in carrying out the experiments. In no case does the grantee receive any compensation for his own services. By this plan important contributions to science and industry have been made at a minimum of expense to the Government.

The following may be taken as fairly typical of the more than 100 investigations on this plan now under way in the laboratories of 10 Canadian universities, and in 15 government and industrial laboratories:—

- The fermentation of honey.
- Mastitis in cows.
- Relation of bacteria to feed flavours in milk.
- Winter hardiness in crop plants.
- Action of bacteria and enzymes on carbohydrates.
- Factors governing the milling and baking quality of wheat.
- The lateral support of steel columns and struts.
- The welding of steel structures.
- The effect of low temperature on steel castings.
- Pressure variations in the cylinders of internal combustion engines.
- The action of alkali waters on concrete.
- The chemical effect of high-speed cathode rays.
- The effects of electric and magnetic fields.
- Investigations of fundamental gas laws.
- Researches in the field of low temperatures.
- The active principle of yeast.
- The floatability of pulpwood.

Training of Research Workers.—To give graduates of Canadian universities further specialized training in methods of scientific and industrial research, the National Research Council has established a series of post-graduate scholarships. These scholarships are of several classes, and awards are made according to the academic standing of the applicants and the extent of their experience in post-graduate research. The fact that two or three times as many applications are received as there are awards to be granted permits the Council to confine the awards to applicants with outstanding qualifications.