From the inception of the scheme to Mar. 31, 1955 the total amount paid out under the Act was $177,397,626. The amount collected under the 1 p.c. levy to Mar. 31, 1955 was $85,767,933.

Subsection 2.—Agricultural Research and Experimentation

The Department of Agriculture conducts on a broad scale scientific research and experimentation on the control of pests and diseases, the nutritional requirements of plants and animals, the breeding and testing of new species and varieties, the microbiology of soils and foods, investigations of crop production and cultural methods, and many other matters. This work is carried on mainly by the Science Service and the Experimental Farms Service and, in addition to providing information on current production problems, is of paramount importance to the long time well-being of agriculture.

Conservation of the soil is of basic importance to agriculture and research in the form of soil surveys and study of methods for the protection and conservation of soil resources is carried on by the Department in collaboration with the provincial governments. Studies include the chemistry of the soil, cover crops, value of manure and fertilizers, cultural methods, use of tillage machinery and development of large land reclamation projects.

The Department has for many years conducted investigations into the control of insects and diseases of forest trees. The limited silvicultural work carried on has aimed at maintaining a supply of trees suitable for planting on the prairies as shelter belts against the wind and to prevent soil and snow drifting. Basically this is also a soil conservation measure.

Much of the research and experimental work is concerned with crop plants for, after the soil itself, these are of chief importance. This work includes the breeding and testing of suitable varieties of crops to be grown under the varying climatic conditions throughout Canada. The culture and the nutritional value of crop plants and the suitability of food crops for human consumption—even their appeal or lack of appeal to a housewife—are continuously under study.

Work on livestock includes mainly the feeding, care and handling of stock, its protection from insects and diseases and the production of suitable market and breeding types. A limited amount of work has also been done on the production of new strains of animals.

Research and study of processed products such as milk, butter, cheese and meat and of fruits and vegetables is a most active item in the scientific work of the Department. Storage of agricultural products creates many problems that call for constant study.

Chemical and biological research and experimentation is chiefly of an applied nature. The Department does not specialize in so-called fundamental research involving the discovery of basic scientific phenomena and laws but concentrates on the adoption of known processes and the application of such processes to specific aims. Some discoveries bordering on fundamental research however are occasionally made, and extension of research is also made to some degree into the basic field where certain information is lacking in applied science.

Agricultural research, particularly in plant science, must be decentralized to a great extent as most problems must be studied where they occur. Apart from the value to farmers of having a local source of information the experimental farms and science laboratories are widely distributed because the work can be done in no other way. In addition to the headquarters of the Experimental Farms Service at Ottawa work is carried on at 32 branch experimental farms, 20 substations and 2 forest nursery stations. Experimental work of local application is done at 232 illustration stations. The work of the Science Service, centralized at Ottawa, is also augmented by that of about 100 laboratories located throughout the country.

In the field of economic research, studies in farm management, land utilization, marketing and farm family living are undertaken in all parts of the country. The scope of the scientific and experimental work of the Department is revealed when it is realized that there is no plant or animal in Canada that is not susceptible to damage by disease caused by bacteria, fungi or viruses or subject to attacks by insects or, for animals, damage by internal parasites.