Work on live stock 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 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 mainly of an applied nature. That is, the Department does not specialize in so-called fundamental research involving the discovery of basic scientific phenomena and laws, but concentrates mainly on the adoption of known processes and the application of such processes to specific aims. At the same time, some discoveries bordering on fundamental research are occasionally made, and it is also found necessary to extend to some degree into the fundamental field where certain information is lacking in applied science.

Agricultural research, particularly in plant science, must be decentralized to a great extent for 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 28 branch experimental farms and 20 substations. Experimental work of local application is done at 162 illustration stations, 54 district substations and 11 fox and mink illustration stations. The work of the Science Service, centralized at Ottawa, is also augmented by about 100 laboratories throughout the country, including the recently opened laboratories of Insect Pathology at Sault Ste. Marie, Ont., and the Science Service Laboratory at London, Ont.

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, in the case of animals, by internal parasites. Also, that the work of the agricultural scientist is never done may be illustrated by the appearance of a new stem rust of wheat (Race 15B) which attacks varieties previously found to be rust-resistant. The only answer to this menace is the development of a new resistant strain necessitating an intensive breeding program. The answers to many such problems are found only after years of continuous study and investigation.

Subsection 3.—Protection and Grading

Unlike manufactured articles, even close scrutiny of most agricultural products is no clue to their purity as food, or their value to the farmer for further production. Obviously, products that are eventually used as food must be pure and healthful and must come up to standards of quality established for them. On the other hand, if agriculture is to be conducted on a sound basis, the supplies farmers buy—seeds, feeds, fertilizers and pesticides—must also carry some guarantee that they will be as represented. Much of the research and experimental work would go for naught if legislation were not provided to see that the end-product of such work was satis-