

The Department has four main Branches—Research, Health of Animals, Economics, and Production and Marketing—and its organization includes a number of smaller units—the Agricultural Stabilization Board (see p. 457), the Agricultural Products Board, the Prairie Farm Rehabilitation Administration (p. 445), Crop Insurance (p. 458), the Information Division and Departmental Administration. Agencies closely allied with the Department and responsible to the Minister of Agriculture are the Farm Credit Corporation (p. 460) and the Board of Grain Commissioners (see Part II of Chapter XXI).

**Research Branch.**—The research activities of the Department are undertaken mainly by the Research Branch at some 60 centres across the country, although important contributions are also made by the Economics Branch (p. 452), the Health of Animals Branch (p. 451) and the Grain Research Laboratory operated by the Board of Grain Commissioners for Canada (p. 451). About 1,000 research workers are employed by the Department and their specialties run the gamut of scientific agriculture from genetics to engineering. Most of the research is directed from Research Branch executive headquarters at the Central Experimental Farm in Ottawa. Also located there are the statistical, engineering and analytical chemistry research services, together with six of the eight institutes for research on animals, food, entomology, microbiology, plants, soils, biological control and pesticides. Throughout the ten provinces there are 13 research stations, 27 experimental farms, a laboratory and a number of substations.

Originally, the main task of the experimental farms was to determine the potential of the various combinations of soil and climate for producing crops and maintaining livestock, and to develop and test varieties, breeds and management practices suitable for each area. Today's federal research program continues with this early work but is designed to meet the specific needs of domestic and export markets. The accent is on promoting greater efficiency in production and diversification of cropping practices.

Canada's main crop for generations has been wheat, the efficient production of which stems directly from the help the grain growers have received from research. Without the new varieties produced by plant breeding, it would be unprofitable to grow wheat on large areas of the wheat belt. Comparable improvements in oats and barley have enabled the farmer to continue to grow these valuable cereals despite the incidence of pests and diseases, drought and short growing seasons. Research has also augmented livestock returns to farm incomes by developing better grasses and legumes adapted to the various regions of Canada that differ in climatic and soil conditions. Research in other crops, notably oil seed plants and potatoes, has resulted in new varieties with resistance to diseases, with improved quality and suitability for specific processing, and adapted to the different growing areas. More than 80 new varieties of crops have been developed and put into commercial production in the past five or six years. It may be added that research into the storage and processing of crops has been recently accelerated and has led to valuable innovations in the fruit and vegetable industries and in the protection of stored grain.

In livestock, the main lines of progress are through genetics and nutrition and the main subjects are dairy and beef cattle, pigs, poultry and sheep. The advantages of selective breeding have been evidenced through the records of animals tested for many years (see pp. 453-457). The CDA developed a new breed of hog, the Lacombe, which is proving a worthy addition to the old-time breeds. Romnelet, a range-type sheep, was also an outcome of federal breeding programs. Crosses of several meat-type strains of chickens made at federal institutions have led to performance superior to that of pure strains. Extensive studies on the causes and control of diseases and parasites of livestock, fur bearing animals and wildlife are carried on with the result that epidemic outbreaks rarely occur and when they do are quickly suppressed. Live animals and meats must attain the high standards required in the export trade.

A matter of constant concern is the protection of crops from diseases and pests. Chemicals have proved to be potent weapons but there is also a continuing search for other control methods. Many weeds can be eradicated by proper tillage and cropping methods