solving practical farm problems by applying fundamental scientific research to all aspects of soil management, agricultural engineering, and crop and animal production. Promotional and regulatory services attempt to control and eradicate crop and livestock pests, and register chemicals and other materials used for these purposes. Also included are inspection and grading of agricultural products and the establishment of crop and livestock improvement policies. Assistance programs cover some of the sphere of price stability, emergency relief, crop insurance, compensation, and income security in the event of crop failure.

The Department has seven branches: Research, Production and Marketing, Health of Animals, Economics, Food Systems, Financial and Administration, and Personnel Administration. Its organization also includes the Canadian Grain Commission, Agricultural Stabilization Board, Agricultural Products Board, Crop Insurance Division and Prairie Farm Assistance Administration. In addition, there are a number of agencies that are independent of, but closely allied with, the Department and are responsible to the Minister of Agriculture. These include the Canadian Dairy Commission, the Canadian Livestock Feed Board, the Farm Credit Corporation and the National Farm Products Marketing Council.

The Research Branch is responsible for research on agricultural production problems although some phases of research are carried on by the Economics Branch, the Health of Animals Branch and the Grain Research Laboratory of the Canadian Grain Commission. The activities of the Branch are carried out at 25 Research Stations, 10 Experimental Farms, seven Research Institutes, two Research Services, and at a number of substations and project farms in all ten provinces. General direction and co-ordination of the program are provided by headquarters of the Branch, located in Ottawa. Approximately 800 professional staff are employed, representing all the biological and physical sciences that contribute to the solution of agricultural production problems.

The total program of the Branch is problem-oriented, with specific objectives and goals for the Branch as a whole and relevant objectives and goals for each establishment. With the increasing complexity of modern agricultural production and the competitive pressures that exist, efficiency and reduced cost per unit of production become increasingly important. Therefore, emphasis in the research program continues to be on development of improved varieties of plants and animals, on production practices that will maximize yields and reduce costs, and on methods of controlling insects, diseases and weeds that lower production.

Through the years, Research Branch scientists have produced new varieties of cereal, forage and horticultural crops to meet new market requirements and reduce the hazards of production. The search continues for even better material to overcome the limiting factors of a northern climate including a short growing season, frost hazards, drought, insect pests and diseases. At the same time, efforts are being made to develop plants that will respond favourably to long days and the high light-intensity of many parts of Canada. As an aid in identifying the effects of climate on crops and providing a basis for forecasting the possibilities of success with new crops in a given area, agrometeorology has become increasingly important. Particular attention is focused on new crops and outstanding success has been achieved; a highlight is the development of new varieties of rapeseed with oil quality-tailored to specification. More than 80 new varieties of crops have been developed and put into commercial production in the past ten years, including almost all of the cereal crops produced in western Canada.

Feed grains and forage crops are receiving special attention for economical livestock production. The application of genetics to animal improvement and strengthening of the knowledge of the nutritional requirements of animals are the two main avenues being explored to improve livestock production. More recently, increasing emphasis has been placed on developing procedures to improve the reproductive efficiency of all classes of stock. Additional attention is also being given to the disposal of animal wastes, a problem that is increasing in severity as livestock concentrations become larger.

An aggressive battle is being fought to control crop diseases and pests. Although chemicals have proved to be a potent weapon, their contribution to the total pollution problem has caused particular concern and other methods of control are now receiving greater attention. The development of resistant varieties, the use of parasites, predators, insect pheromones, and radiation-induced sterility and the destruction of insects by non-chemical means are all in the arsenal of research workers. In this, as in most other aspects of agricultural research, the team or inter-disciplinary approach is being used more and more.