BIOTECHNOLOGY AND AGRICULTURE

The biotechnology industry in Canada is relatively young but is growing rapidly. At the beginning of the 1980s, there were only a handful of Canadian firms engaged in biotechnology. Today, some one hundred specialized biotechnology firms are involved in developing and/or utilizing biotechnology. These firms carry out research and testing of biotechnological processes, and assist in integration of biotechnological innovations in a wide range of domestic and industrial operations. In addition to the specialized firms are an even greater number of industrial firms (e.g.: manufacturers, processors, etc.) which maintain their own in-house biotechnology research and development facilities for specific internal applications.

The industrial commitment to biotechnology in Canada covers the full spectrum of known applications:

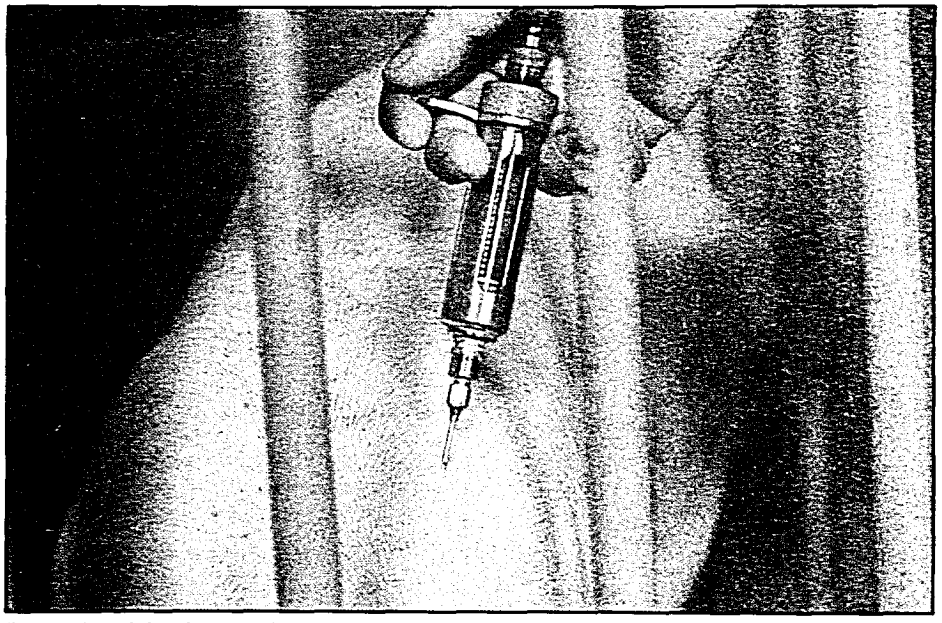
- production of drugs and vaccines;
- treatment and processing of domestic and industrial wastes (including degradation of toxic wastes);
- improvement of agricultural products;
- development of new foods and food products;
- processing of raw materials and resources including mineral extraction procedures, biomass treatment processes, manufacture or processing of chemical products.

In addition to this activity, some 25 Canadian universities have research programs in biotechnology. Approximately fifteen of these universities have international reputations in specific fields, including agriculture and animal health care. Canadian universities are increasingly turning toward the commercialization of research findings and the establishment of links with private industry.

Canada's agricultural industry constitutes a major market for biotechnological goods and services. This sector, along with the related processing, wholesale and retail sectors, accounts for more than 25 per cent of Canada's economic activity.

The magnitude of the agriculture sector market is indicated by the sizeable farm receipts in all regions of Canada (See statistical section in this issue.).

Future growth and diversification, and improvement in productivity in Canada's agriculture industry will be heavily dependent upon the realization of commercially-viable technological innovations such as embryo transplants to produce genetically-superior animals, genetic engineering to produce new types of crops and development of biological procedures to control pests.



Research and development has resulted in many new products, such as Langford Laboratories (Guelph, Ontario) porcine *E. coli* bacterin.