

Yet the farmer remains a key player. In an industry dispersed over tens of millions of hectares the human challenges have been great, depending in the end on the competence, innovation, decision-making and co-operation of tens of thousands of individual producers.

A major portion of agricultural production in Canada is exported. Most important is the export of grains and oilseeds, and especially of wheat. In 1982 nearly \$6 billion of grains and oilseeds were exported (\$4.3 billion of wheat), equal to 32% of the entire gross cash receipts of Canadian farmers for the year.

The role of government — federal, provincial and municipal — has been crucial, for research, extension, credit, regulation, inspection, orderly community development, and services of many kinds. In agriculture government has had a unique pervasiveness and intimacy because of the extremely dispersed nature of farming, and the very limited size of the individual enterprise. Agriculture has been so fundamental and vital to the nation's development that its progress could not be left to chance.

From the early days of settlement farmers and their wives recognized a need to take organized action to serve their economic, social and professional needs. For example, they organized to press for government legislative and policy action, to form their own co-operative marketing and supply businesses, to assist in acquiring the knowledge and skills in homemaking so essential for survival in a new and often unfamiliar environment, to take legal action when their rights were threatened, to associate for improvement in animal breeding, cultivation methods and seed growing.

The farmer's organizational needs were not only to help him learn to do his job better, but to protect himself from economic exploitation and damaging instability. They were also to help ensure that there was orderly regulation and inspection for grading, quality control, and protection from infectious diseases.

The history of farmer organizations in Canada makes a long, complex and often dramatic story. The issues and problems are not all settled today, nor is the drama lacking. The dramatic and complex debate surrounding the federal government move to restructure western grain transportation policy and Crow's Nest Pass statutory rates provides a case in point.

As the number and proportion of farmers declined the role of farm organization has seen important changes. When farmers represented a large proportion of the population and the problems of isolation of the farmer were greater, farm organization functioned in the field of general social policy more actively than it does today, for example in adult education, public broadcasting and health care. Particularly at the federal level its role in these areas has been reduced, with its work much more generally

focused on strictly agricultural concerns. This is less true at the provincial level and even less at the community level.

The Canadian Federation of Agriculture, by whom the writer has been employed for many years, is a federation of farmer organizations in every province of Canada except Newfoundland. Although the only fairly comprehensive umbrella farm organization in Canada, it is not fully representative of farmer organizations. When one speaks of farmer organization this should be recognized as a general term that embraces the substantial body of farmer-owned marketing and supply co-operatives, and producer marketing boards, as well as general membership structures and commodity associations. Democratic farmer organization in Canada is diverse, reflecting the complexity of views and interests in the industry. — DAVID KIRK

9.2 Looking ahead to the year 2000

Few sectors in the Canadian economy have been as profoundly transformed since World War II as agriculture. Future developments will be sensitive to major technological innovations, the changing nature of the national economy and world food trade, and the nature of government intervention in agriculture — all difficult to predict. Perhaps the safest prediction is that structural change in the agricultural sector by the year 2000 is likely to be as deep and far-reaching as the changes since World War II.

Technological change. An accelerating pace of scientific innovation, focused around bio-technology and computers, will affect agricultural practices. Embryo transplants based upon cloned cells, allowing genetically superior animals to be propagated more quickly, will likely become as commonplace as artificial insemination is today. Genetic engineering may result in grain varieties which can fix nitrogen, lowering demand for petrochemical fertilizers. Emphasis on the integration of biological procedures to control pests with a new generation of farm chemicals can be expected. Although not yet commercially viable, a potato plant that eats potato bugs has been developed.

Micro-computers are likely to have an impact on the non-physical work of farmers to equal the impact machinery had on physical work formerly required. Inexpensive micro-computers and software developed specifically for farm use will rationalize day-to-day production and financial management decisions. Rapid electronic information processing may be a prerequisite to the efficient diffusion of new technologies such as integrated pest control. New computer technologies may allow not only more efficient operation of large machines but may operate the machines themselves. By the year 2000 the first generation of farm robotics may be in place.

Economic and social change. Historical trends toward a decline in the number of farmers will likely