



To operate efficiently, owners of large farms need more than powerful equipment. It must also be easy to service. The products of the world's largest manufacturer of four-wheel drive tractors, a Canadian company, are designed to enable farmers to overhaul them in record time in the middle of a field. Replacement of a clutch requires three hours compared with eight to 20 hours in other makes, and transmission servicing requires eight hours rather than the usual 20 to 60 hours. This tractor is equipped with an air-conditioned cab and closed circuit television that allows the operator to see what his equipment is doing in the field.

southern Alberta. Oilseed crops—rape-seed, flax and sunflowers—are becoming increasingly important to the Prairie economy.

The second-largest agricultural region in Canada is situated in the lowland areas of south-eastern Ontario. Its climate is modified by the Great Lakes and St. Lawrence River and is ideal for a variety of agricultural uses. The farms are smaller than in other parts of Canada—usually between 30 and 140 hectares. Farming operations are usually of the dairy, beef, hog and poultry varieties. Corn, mixed grains, winter wheat, oats and barley are grown for livestock feed. There are also cash crops—notably soya-beans,

Soya Sauce Without the Beans

A FOOD scientist at the University of Alberta recently invented a soya sauce made without soya beans. It is produced from canola, formerly known as rapeseed meal, instead of soya-bean meal, tastes exactly the same as and has chemical properties very similar to commercial soya sauce, and could be produced for about 30 cents a litre.

Canadians purchase about \$10-million worth of soya sauces each year. Most canola is used for the production of cooking oil and the meal is fed to animals.

potatoes, flue-cured tobacco, apples, tender fruits and vegetables.

The moderate climate and hilly terrain of the Atlantic agricultural region favour mixed farming. Most of the farms are small, but their soil is generally fertile. Conditions are particularly well-suited to forage crops. Potatoes are a major crop in Prince Edward Island and parts of New Brunswick. Fruit and vegetable cultivation and dairy and poultry operations are common in Nova Scotia.

Extensive Research Activity

Throughout the world, Canadian food products are recognized as being of very high quality. Quality is steadily improved by extensive research activity in government departments, experimental farms, and colleges and by exceptionally high standards of inspection, grading, and health protection for animals and consumers.

The major markets for Canadian food exports have been Japan, the United States, and the European Economic

Community. But almost every country in the world imports some Canadian food, and important new demand is arising among the oil-producing and the developing countries. The favourable exchange rate on the Canadian dollar has attracted new international interest in Canada's food products. Exports of Canadian food products totalled \$8 billion in 1980.

World Leader in Grain Exports

Exports of grains and cereals and their products have been the mainstay of Canadian agricultural exports worldwide. They now exceed \$4.8 billion, with wheat and flour accounting for more than half of this. Twenty per cent of the wheat traded in the world originates in Canada. Canada is known internationally for having the highest-protein wheat and flour in the world. Many years of strong demand for Canadian wheat have pushed the country's handling facilities to capacity. Value of flour exports, meanwhile, more than doubled

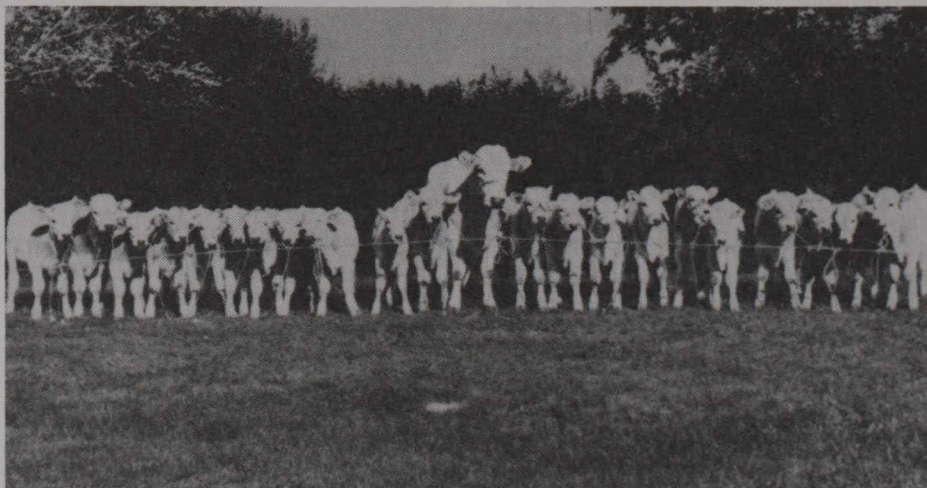
Bovine Transplants for Quality Herds Quickly

FOR NEARLY 40 years one of the world's major producers of quality cattle and semen, Canada now is also a leader in the latest technology for cattle reproduction. This involves the transplant and freezing of bovine embryos from donor cows with superior genetic qualities, which have been artificially bred with semen from a genetically superior bulls.

The advantage of embryo transplants is that they enable cattle breeders to improve dramatically the quality of beef or dairy herds in a relatively short time.

A method of fertilizing eggs outside the female that produced them is a more recent development. In this technique, eggs harvested from a superior cow are fertilized in another animal before they are transferred to a foster mother. Perfection of the technique would enable establishment of frozen egg banks to partner frozen semen banks which have been in use for many years.

Two Canadian livestock firms pioneered the technique of freezing embryos and now store frozen fertilized eggs from select matings, which they make available for transfer to recipients in other countries. The Canadian companies send specialists to countries without the necessary expertise to perform transfer operations, and will also train personnel in the techniques.



The mother of this family, a Romagnola cow named Perla owned by a Canadian beef farmer, produced all 21 calves as a result of a single non-surgical embryo recovery procedure, which usually results in fewer than five calves. Each embryo was then implanted in another cow for the nine-month incubation period.