

land of its shallow fertile top soil. By developing a totally new farming technology, Canadians have converted such areas into some of the richest grainfields in the world, producing more than 35 million t annually of wheat, oats, barley, rye, canola and flaxseed. In addition to the production of grain, the interior plains support some of Canada's largest herds of beef and dairy cattle on 20 million ha of rangeland and pasture.

The Pacific farmlands, bathed in a warm, humid climate, yield bumper harvests of fruits and vegetables. As in the Atlantic region, farmers here raise both cash crops and dairy cattle. Honey too is available in abundance.

Grain and Oilseeds

Wheat is Canada's most important field crop and largest agricultural export commodity. Every year, nearly 14 million ha in the Prairie region are planted with wheat to yield a crop of more than 25 million t. About 80 per cent of this crop is exported worldwide.

Canada Western Red Spring wheat, which has excellent milling characteristics, and durum wheat, which has the high gluten content essential for pasta, are two popular Canadian wheat varieties.

Next to wheat, barley is Canada's most important grain crop and major coarse cereal-grain export. Barley, oats, rye and corn produced in Canada are used primarily as feed grains for livestock and poultry.

Canola, derived from rapeseed, is a new oilseed developed by Canadian scientists through genetic engineering. Canola produces a high-quality edible oil used as salad or cooking oil, as shortening or as margarine. The high-protein canola meal, the crushed seed left after oil extraction, is mixed into cattle rations. Canola is gaining popularity on international markets.

Livestock

Canada has large populations of beef cattle, dairy cattle and swine.

The Canadian beef cattle population is about eight million head. It consists mostly of Aberdeen-Angus, Charolais, Hereford, Limousin, Simmental and Shorthorn breeds. Purebred animals make up about 5 per cent of this cattle population.

Canada's beef cattle, raised in one of the healthiest animal environments in the world, are recognized for their efficient growth and reproductive characteristics,

carcass quality and longevity on the range.

Genetic improvement of beef cattle has been accelerated in Canada in recent years through the use of artificial insemination and embryo transfer.

Of the 1.7 million dairy cows in Canada, about 85 per cent are Holstein breed. The average milk production of a mature Holstein dairy cow raised under Canadian management conditions is 7700 kg per year.

Dairy cattle have also benefited genetically from artificial insemination and embryo transfer. About 75 per cent of Canadian dairy cows are bred with frozen semen. As a result, Canadian breeders have developed animals renowned for their milk production and longevity.

The Canadian swine population exceeds 10 million head of which about 1.1 million are breeding stock. Bred for intensive rearing conditions, Canadian swine are noted for their leanness, hardiness and overall quality.

The excellent foundation breeding stocks of Canadian beef cattle, dairy cattle and swine are selected for the improvement of herd populations throughout the world.

The Canadian poultry industry is distributed across Canada in proportion to population concentration. Poultry production and processing are among the most highly mechanized sectors in agriculture.

Poultry is almost entirely produced in indoor facilities with the exception of some heavy turkey production. One person can operate a unit capable of producing over one million dozen eggs per year. A single operator can also handle 350 000 broiler chickens a year to provide 640 t of meat.

Equipment

The Canadian agricultural industry depends on mechanized soil cultivation and harvesting of crops. Canadian farm equipment manufacturers provide a complete range of machinery for land clearing, drainage, irrigation, livestock raising and dairy production, dryland farming, grain handling, storage and processing, as well as equipment for horticultural and specialty crops.

The industry exports over 60 per cent of its production and is considered to be a world leader in dryland farming equipment, large four-wheel-drive

tractors, combines and tobacco harvesting machinery.

In dryland farming, every effort is made to plow, seed and harvest without soil turnover. Canadians pioneered the development of chisel plows, rotary rod weeders, rock pickers, seed drills and other sophisticated equipment enabling farmers to grow grain crops in dryland conditions.

Recent Canadian equipment innovations include the flexible combine header that adjusts to uneven land in crop harvesting, energy-efficient blanchers for fruits and vegetables to prevent spoilage during storage, and mechanical de-boners to cleanly separate meat from bone in a single pass.

Research and Development

Canadian scientists study all relevant aspects of livestock and crop production in a continuing effort to improve livestock breeding, crop varieties and yield.

Research on beef cattle, for example, focuses on producing animals with high growth rates, excellent carcass quality, improved forage conversion, and better cold tolerance and adaptation to the Canadian climate.

Canadian researchers have developed a unique process for freezing liquid and semi-liquid foods into homogeneous pellets. The innovation has produced pelletized eggs which, because they require no water for reconstitution, retain the qualities of farm-fresh eggs. Pelletized eggs are used in institutional kitchens, hotels and restaurants where storage to retain egg freshness is often a problem.

Canada is also playing a major role in the development of safe food irradiation, a technology that destroys bacteria and extends the shelf life of agricultural products, food ingredients and fresh or frozen foods.

The Canadian agricultural industry is thriving. Its efficiency and high productivity are the result of research, breeding technology, farm management, state-of-the-art equipment and comprehensive supporting services to bring the farm product to market.

