

THE CANADIAN FERTILIZER INDUSTRY

The Canadian fertilizer industry produces three nutrients, nitrogen, phosphorus and potassium, that are vital to plant growth and production. These nutrients are made available for plant utilization in the form of basic fertilizer materials which include ammonia, ammonium nitrate, ammonium sulphate, ammonium phosphate, urea and potash.

Canada's chemical fertilizer industry began in 1869 at

Brockville, Ontario. In that year, Brockville Chemical and Superphosphate Company began treating phosphate rock obtained from nearby Lanark County with sulphuric acid manufactured from iron sulphides.

Ammonium sulphate as a by-product of coking ovens was first produced in Canada in 1901 in Sydney, Nova Scotia. The first nitrogen producing plant in Canada began operations in 1909 in Niagara Falls, Ontario.

In 1940, Canada began strategic production of ammonia and nitrogen-based explosives for the Allied forces. Four ammonia producing plants, two in British Columbia, one in Alberta and one in Ontario all came into production within a year of commencement of construction. Canada's annual nitrogen production capacity doubled to approximately 220,000 tons within that same year. In the immediate post-war years, this capacity was successfully converted to fertilizer production to meet the increase in demand for food and the growing awareness of the benefits of using fertilizers to increase food production capacity.

The 1950s was a period of steady growth in Canada's fertilizer production and consumption and important progress in laying the groundwork of today's modern fertilizer industry was made at that time. The size and scope of Canada's vast resources of natural gas, potash and sulphur and how they could be used in fertilizer production were explored and capitalized upon. Use of natural gas as a highly economic and efficient feedstock and energy source for the production of ammonia was demonstrated in production plants coming on stream in western Canada. Meanwhile, construction of a pipeline was undertaken to make Alberta natural gas available for use in ammonia production in eastern Canada.

Finally, the introduction of innovative refrigeration and ventilation techniques and the later development of solution mining made Canadian potash production commercially viable.

It was during the 1960s that the rapid growth of the Canadian fertilizer industry began. The expanding world population and changing consumption patterns enormously increased demand for food. Food production rose, planting acreages were increased, more intensive cropping began and



Canada supplies 25% of the world demand for potash fertilizers.