

INTERESTS ABROAD

"Although we expect to look for and develop sulphide-ore bodies in Canada," Henry L. Wingate, chairman of INCO, said, "the great bulk of the known deposits of the world are lateritic, found mainly in the tropical areas of the world. International Nickel, either in partnership with others or by itself, has rights in such deposits in Guatemala, New Caledonia and Indonesia. In 1970, we made progress in moving all of these toward stages where construction could be launched."

As announced by the Guatemalan Government on February 26, an agreement has been reached between the Government of Guatemala and Exploraciones y Explotaciones Mineras Izabal, S.A. (Exmibal), a Guatemalan company owned 80 per cent by International Nickel, which will be the basis for seeking to arrange the financing required for the Exmibal project. The project would produce 60 million pounds of nickel a year and is now estimated to require a total investment of \$250 million.

Mr. Wingate described 1970 as "a year of solid achievement" for the company in which return on capital invested came more into line with the levels that the company experienced in the first half of the 1960s.

FOREST FERTILIZATION

In order to increase the growth of trees, it will soon become necessary to fertilize parts of Ontario's 105,262,000 acres of productive forest-land. The long-range wood-requirement forecast indicates that, by the year 2000, Canada's demand for wood products will be about 4½ times what it is now. The present figure is estimated at 45 million cunits (one cunit is 100 cubic feet).

A number of programs are designed to provide the sort of information needed by foresters. One of the most important, in which the Ontario Department of Lands and Forests is a participant, is the Inter-provincial Forest Fertilization Trial, whose purpose is to accumulate specific information on the increased rates of growth that might be obtained through soil-fertilization.

Research began several years ago, when representatives from the eastern provinces, and of the Federal Government, the Pulp and Paper Research Institute and a number of universities met to discuss

a unified approach to forest-fertilization. A technical committee was eventually formed to develop and oversee a project design. Provinces from Alberta to Nova Scotia are now actively involved in this program.

METHOD

The first phase is the location and establishment of groups of 12 plots in selected coniferous stands, which are known collectively as an "installation". Within each plot, the diameter of all living trees, two inches and over, is measured to the nearest hundredth of an inch.

The following year, different levels and combinations of nitrogen, potassium and phosphorus fertilizer are applied to the plots by cyclone seeder. The first measurements, recording growth response, will be made five years after fertilization. These data will be sent to the Pulp and Paper Research Institute at Pointe Claire, Quebec, for analysis and interpretation.

AERIAL FERTILIZATION

Since 1967, the Department of Lands and Forests has also been studying the problems of applying fertilizer from the air, in preparation for large-scale applications that may be required in the future. The aerial application of fertilizers, although in many respects similar to the application of insecticides and herbicides, differs in the quantity of material used. Herbicides are applied at the rate of about three gallons, or about 30 pounds to the acre, but fertilizers are applied at a rate usually in excess of 200 pounds. It is important to reduce loading-time to a minimum because of the large volume of material being handled. Both the Sault Ste. Marie and Swastika Forest districts have designed techniques for achieving this objective.

The federal Department of Fisheries and Forestry, the University of Toronto and the Pulp and Paper Research Institute have also made comprehensive forest-fertilization studies in cooperation with several pulp-and-paper companies. Their studies include time, rate and methods of application, cycling of nutrients and an attempt to determine to what extent large-scale fertilization might contribute to environmental pollution. Departmental foresters emphasize that although there is nothing to indicate that fertilization of forests will cause water pollution, care is taken to see that excessive amounts of material do not fall into open water.