Unique heating method for agricultural growth in Northern Ontario

Growing produce plentifully and economically during the winter months in Northern Ontario sounds like a utopian idea, but Energreen Enterprises and the Ontario Energy Corporation is turning this dream into a reality.

In 1974, Gilbert Levangie, an instructor at Northern College in Kirkland Lake, Ontario, began research on recovery of exhaust heat from natural gas compressors. By 1979, Mr. Levangie and his colleague Lee Cox, also of Northern College, proposed a demonstration project to investigate the viability of heating a greenhouse by recovering exhaust heat from a TransCanada compressor station near Ramore, Ontario.

With the assistance of the Ontario Ministry for Northern Affairs, TransCanada PipeLines and Northern College collaborated on the construction of a 3 651-square-metre greenhouse adjacent to the TransCanada compressor station begun in 1979.

The Ontario Ministry for Northern Affairs contributed $200 000 towards the construction of the prototype greenhouse while TransCanada PipeLines contributed $60 000 towards the construction of ductwork to transport the exhaust gases from the turbine compressor station to the greenhouse. Northern College provided the expertise to carry the demonstration project through.

Tomatoes grown

The first crop planted and harvested at the greenhouse was tomatoes which found a ready market in the Kirkland Lake and Timmins areas. The quality of the tomatoes was better compared to imports, since the difference in the time from picking the tomatoes to the time of selling was substantially reduced. The successful completion of this demonstration project provided the impetus for Mr. Levangie, along with his colleagues and entrepreneurs, to establish a commercial operation.

Energreen Enterprises was incorporated in September 1981 by Mr. Levangie, fellow entrepreneurs and the Ontario Energy Corporation, which holds a 50 per cent interest.

Construction of a new 18 288-square-metre greenhouse began in September 1981 and was completed by May 1982 with the co-operation of the Ontario Ministry of Natural Resources.

Buried 121-centimetre diameter ductwork, similar to that supplied by TransCanada during the demonstration project, extends approximately 243 metres from TransCanada's compressor station to the greenhouse. Exhaust heat was first provided in December 1982 for the commercial operation. Back-up natural gas heaters were provided and connected by Northern and Central Gas Corporation.

Exhaust heat from TransCanada's turbine compressor is approximately 426 degrees Celsius, but by the time it reaches the greenhouse it is reduced to 260 degrees Celsius. Then, specially-designed heat exchangers use the hot gas to heat the greenhouse atmosphere to a suitable growing temperature.

The first crop planted in the new greenhouse in May 1982 consisted of about 4 million seedlings, two-thirds jackpine and one-third black spruce. Annual production at the greenhouse is expected to consist of two crops of seedlings and one crop of vegetables, probably tomatoes.

The vegetables will be sold in the Kirkland Lake-Timmins area and the seedlings are required by the Ontario Ministry of Natural Resources for reforestation.

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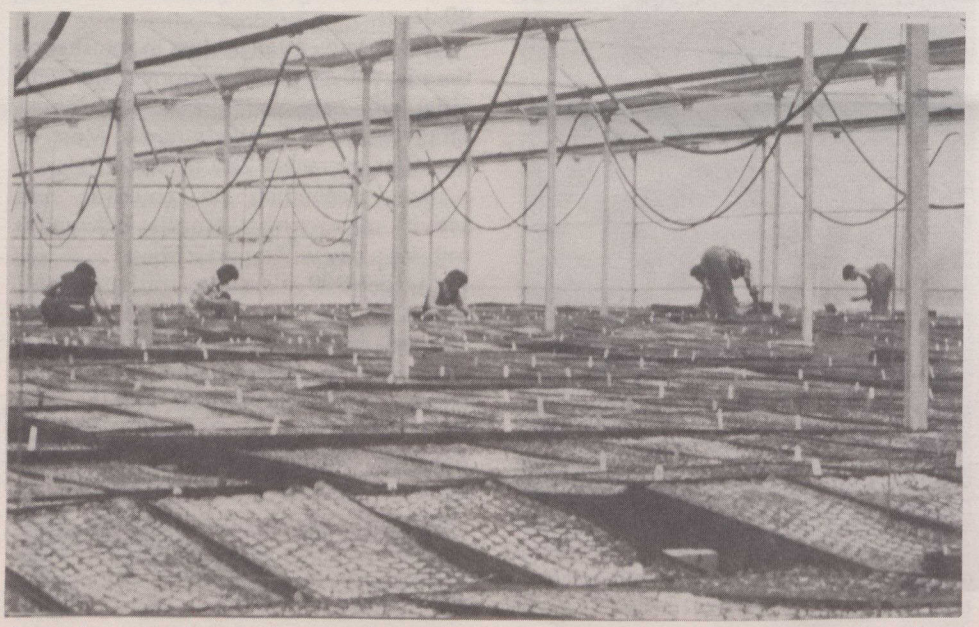

Annual production at the greenhouse is expected to consist of two crops of seedlings to be used for reforestation and one crop of vegetables.

Caviar takes the cake

The prestigious Gordon Royal Maybee Award has been won by Canada's Department of Fisheries and Oceans for the development of Canadian lake whitefish golden caviar.

The award was presented during the opening ceremonies of the twenty-sixth annual conference of the Canadian Institute of Food Science and Technology (CIFST) held recently in Ottawa.

"The development and marketing of this caviar has had an important effect on our freshwater fisheries," said Fisheries and Oceans Minister Pierre De Bané. "Whitefish is one of Canada's most important commercial freshwater species both in terms of volume and economic return."

The new product adds about 30 per cent to the value of the catch, creates seasonal employment in the primary processing sector, and has turned a formerly discarded by-product into a valuable food.

CIFST presents the award in recognition of an outstanding applied development by a Canadian company or institution in the field of food production, processing, transportation, storage, or quality control. This was the first occasion it had been presented for a development achievement in the Canadian fishing industry.

Initiated under the Fisheries Development Program of the Department's western region in Winnipeg, the salt-cured whitefish caviar was successfully test-marketed in 1977, with further development and industry participation in 1978.