Weed harvester has potential for developing countries

A Canadian inventor has designed a marine harvester that may prove successful on the international market.

Already, Gary Troke of Perth, near Ottawa, has won a $740 000 contract to build 34 of the harvesters to clear underwater weeds from the Nile. If the Egyptian government is satisfied with the machinery, then there is a possibility that Mr. Troke will be asked to supply another 200 machines worth about $4 million. An Italian company and a New Zealand firm have also shown interest in the harvester.

The harvester, produced by Mr. Troke's company, Trobee Marine Equipment Incorporated, was selected by the Egyptian government over 12 other entries in an international competition.

Simple design

Mr. Troke said that the Egyptians bought the harvester because it is simply designed, easy to maintain, light-weight and inexpensive. The 816-kilogram vessel costs about $8 000; rival products start at three times that price.

While harvesters used in North America are propelled by outboard motors, the vessels being built for Egypt will each have two paddle wheels attached to the stern and will be powered by a diesel engine.

The inventor received the contract through Kenting Earth Sciences Limited of Ottawa, a surveying company that is conducting a hydrological survey of the Nile to study the side effects of the Aswan High Dam in southern Egypt.

To ensure easy access, Kenting needed an aquatic cutter to slice paths through the thick weed beds of the Nile. Trobee Marine was selected to build the machine and that led to the sale of the harvesters.

The marine weed harvester was not originally designed for the Nile; it was built to control underwater plants clogging Ontario's rivers and lakes. Mr. Troke's original business involved controlling underwater plants that blocked access to summer cottages on the Rideau Canal and lakes in the Kingston area.

Business was good. But while cutting the weeds took little time, collecting them took many hours. This collection problem sparked the creation of the marine harvester.

In the fall of 1979 Mr. Troke designed a machine that would cut weeds and collect them at the same time. He built the first model in five weeks, tested it and began production that winter. So far, about 100 harvesters have been sold.

Because the marine harvester is technologically simple and the parts easy to procure, it is ideally suited for Third World markets. And it is these markets that his company aims to capture.

Third World countries are struggling to raise their food production. One problem they face is the explosive growth of water weeds that clog irrigation waterways and hinder the pumping of water into the fields.

In addition, oil-based aquatic herbicides, a commonly used method of weed control, are becoming increasingly expensive because of high oil prices. Another drawback is that frequent use will not only kill the water weeds but also the crops in the fields.

The company hopes to get help in developing overseas markets from the federal Export Development Corporation and Trobee has begun preliminary discussions on related issues with the Ontario Development Corporation.

Gas stations go natural

A Husky Oil Limited gas station in northeast Calgary, Alberta became the first auto station in North America to offer car owners compressed natural gas on September 13.

Another Husky station selling natural gas has since opened in Vancouver and a Shell Canada station for the same purpose will open in Toronto in October. The stations were converted to sell the natural gas by CNG Fuel Systems Limited, a Calgary-based firm marketing auto conversion kits for natural gas.

Conserves fuel

Compressed natural gas is a clean burning fuel and in addition to being energy efficient will provide considerable savings to automobile owners. CNG president Judd Buchanan said the savings to consumers across Canada are expected to range from 16 cents a litre in Alberta, where gasoline prices are the lowest, to 25 cents a litre in Quebec. He added that he believed that using the natural gas is "Canada's only true potential for energy self-sufficiency".

CNG Fuel Systems is planning to have ten additional stations in operation by the end of 1982 and stations operating in most centres from Quebec City to Vancouver by the end of 1983.

The cost of installation of the natural gas compression and transmission equipment at the Husky station in Calgary amounted to $200 000. CNG is considering leasing arrangements to help service station owners pay for the expensive equipment costs. Negotiations are also being undertaken with the federal government to provide owners with an operating subsidy for the first year or two.

The cost of converting vehicles to run on compressed natural gas ranges from $1 700 to $2 300, depending on the size and number of engine cylinders. Auto conversion grants totalling $600 are available from the federal government and in British Columbia an additional $200 is available from the provincial government. A number of provinces supporting the use of natural gas have also lifted road taxes on compressed natural gas.

New fishing trawler built for research

The most recent addition to the federal fisheries fleet is considered by some to be the most sophisticated deepsea trawler afloat, and will help both fishermen and researchers in their work.

The 50-metre *Wilfred Templeman*, launched earlier this year at the Ferguson Industries Limited, shipyard in Pictou, Nova Scotia, has recently officially entered the Department of Fisheries and Oceans fleet.

Sandy Sandeman, head of an 11-member scientific team that would work aboard the vessel, said the *Templeman* was intended primarily for research purposes but was also designed to "encourage and expose Canadian expertise in building".

The 2 000-horsepower engine was built by Bombardier Limited and most of the equipment aboard was manufactured in Canada.

After undergoing a number of sea trials, the $10-million ice-strengthened stern trawler will begin working off the east coast and possibly in the eastern Arctic.

Although the design of the ship is similar to that of commercial trawlers, fishing operations are controlled from a console, which provides automatic operation in setting and hauling nets, he said.

Part of the automated system involves a new type of winch, which was developed in Canada and has never been used before.