Industrial Research Assistance Program (IRAP)

Region:
Newfoundland and Labrador
St. John's

Abydoz Environmental Inc.

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Rod Vatcher, Vice-President, Abydoz Environmental Inc.

A soggy solution to wastewater management

Wetlands were once viewed as little more than real estate waiting to be drained and developed, but today we know better. Canada's many soggy tracts have a remarkable ability to filter out contaminants and maintain the quality of a region's underground water sources.

A Newfoundland company is now taking advantage of this remarkable capability to treat wastewater generated by individual homes and small communities. Abydoz Environmental Inc., based in St. John's, is adapting an engineered wetland system that can provide a cost-effective, sustainable solution to the ongoing problem of sewage.

This firm's technology, called PhytoKlare, employs living organisms to purify a waste stream. Described as a "root bed" or "reed bed" system, the treatment area consists of an artificial ecosystem made up of plants, soils and microorganisms. These biological components can capture effluents from industrial operations as significant as steel mill or paper processing, purifying water sufficiently for irrigation.

This sewage solution is also known as a "Kickuth BioReactor", named after German researcher Reinhold Kickuth, who originally developed it. Abydoz now holds a license for this technology, which has been installed in more than 600 sites around the world since 1974. The first of those sites was the town of Othfresen, Germany, where the system continues to treat the waste generated by the population of 5000 people as well as a sausage factory.

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For information on IRAP, or to reach an Industrial Technology Advisor (ITA), please contact the IRAP regional office nearest to you. In Newfoundland & Labrador, call (709) 772-5228.

Web site:

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Abydoz Environmental, founded in 1997, is developing PhytoKlare as a practical water treatment option for homes and communities throughout Newfoundland and Labrador. Among the most appealing features of this technology is its low capital costs, which can be up to 20 per cent less than a conventional treatment system. With low operating and maintenance costs, including no power consumption, Kickuth BioReactors could have operational life spans as long as 100 years.

By way of demonstrating some of these advantages, in 2001 Abydoz constructed a 35-home PhytoKlare Communal Treatment System in the southern Newfoundland centre of Marystown. The installation consisted of two treatment beds, each about 320 square metres in area, made up of plants that eventually grow to some two metres in height.

A full-scale version of the system is to be built later, ultimately serving 120 homes in this section of this town of about 6,000. For Abydoz, this pilot plant has been an important way of proving the virtues of its technology, such as showing how treated effluent has no odours to attract insects.

Abydoz Vice-President Rod Vatcher is grateful to the Industrial Research Assistance Program (IRAP) for its support in the Marystown project. An initiative of the National Research Council, Canada's foremost research and development agency, IRAP works closely with small and medium-sized enterprises, helping them grow their businesses, increase their competitiveness, and enhance their impact in the marketplace.

In the case of Abydoz, says Vatcher, IRAP directly funded the building of its facility in Marystown. "This was instrumental in helping us set up this operation," he observes, adding that the site has become a showcase that the company is inviting prospective clients and partners to visit. ■

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