



Case Study Bio-Terre Systems Inc.

About Bio-Terre Systems

Bio-Terre Systems was founded in 1998 to develop and commercialize a technology to stabilize and transform hog manure into an organic fertilizer free of odours and non-pathogenic, building on research and development results of Agriculture and Agri-Food Canada. The technology developed involves the anaerobic transformation at low temperatures of hog manure into liquid fertilizer and biogas (methane). The resulting liquid fertilizer is spread on fields, and methane can be used as a source of green energy.

Issue

Hog manure is rich in phosphorus and nitrogen, and while these nutrients are essential to all living organisms (they are the main nutrients for animal and plant growth), too much phosphorus and nitrogen can modify the natural environmental balance of certain ecosystems. Farms in Quebec are becoming saturated with these nutrients (land is a limited resource), and agricultural producers need to find alternative ways of handling the surplus.

Furthermore, fears of surface and groundwater contamination and odour emissions have made hog operations increasingly under the oversight. The application of manure to fields releases large amounts of nitrous oxide (N_2O), a greenhouse gas 310 times more harmful than carbon dioxide (CO_2). All of these factors have made it necessary for the hog industry to find alternative ways of processing manure.

Enviro-Access Action

Enviro-Access helped with this project on several levels. During the research stage it performed market studies in order to assess the commercial potential of this new technology, and to compare it to competitive technologies. It also helped the company to obtain financing for the project at both the provincial and federal levels. In addition Enviro-Access took part in the calculation of the potential environmental benefits (i.e. the potential decrease in greenhouse gas emissions). Throughout the project Enviro-Access also supported the recruitment of interns and graduates.

Results

The technology is easily adaptable to current farming processes, and has been implemented in three pilot projects. Two of these are located in Quebec (Beauce and Estrie), and one is in Manitoba (Teulon).

The fertilizer produced from this process is of high-quality, which helps to improve crop yields. In addition, there is considerable energy potential for the biogas produced



through the anaerobic process. In fact with this technology, 10 000 hogs/year can produce 200,000 m³ of methane/year, which is equivalent to a continuous production of 40 kW of electricity.

On an environmental level the treatment technology can reduce by 90% the greenhouse gas emissions associated with the farm's activities. Finally, once the manure is treated it is free of pathenogenic microorganisms and is odourless.

Potential future applications of the process involve the anaerobic treatment of cattle manure and disposition of animal carcasses, which also poses a significant environmental issue.



"From the start-up to the marketing phase Bio-Terre is now deploying, Enviro-Access has been a key partner, in performing market evaluation, personnel recruiting and obtaining substantial governmental financial support for the demonstration and pro-commercialisation phase" - **Mr. Richard Royer, Vice-President – Bio-Terre Systems Inc.**

For more information contact:

**Manon Laporte, President and CEO
Enviro-Access**

85 Belvedere Street North
Suite 150
Sherbrooke, QC, J1H 4A7
Tel: 819-823-2230, ext. 26
Fax: 819-823-6632
E-mail: mlaporte@enviroaccess.ca
Web site: www.enviroaccess.ca

**Richard Royer, Vice-President
Bio-Terre Systems Inc.**

150, rue de Vimy
Sherbrooke QC, J1J 3M7
Tel: 819-562-3871, ext. 2254
Fax: 819-563-8984
Email: bioterre_systems@yahoo.ca