

Case study:

Legumier Du Madawaska Biocord™ Upgrade

- BioCord™ Reactor
- Vegetable Processing Wastewater
- New Brunswick, Canada

The challenge:

Meeting stricter wastewater treatment and pH requirements.

The Legumer du Madawaska is a vegetable processing facility located near Rivière-Verte, New Brunswick. The company has been in operation since 1974 and has grown continuously since then, with 3 different expansions involving increased processing capacity. The main vegetable processed is potatoes for fresh cut French Fries, but they also process carrots, turnips and cabbages. It employs 8-15 workers year-round and purchases all of its vegetables from local producers.

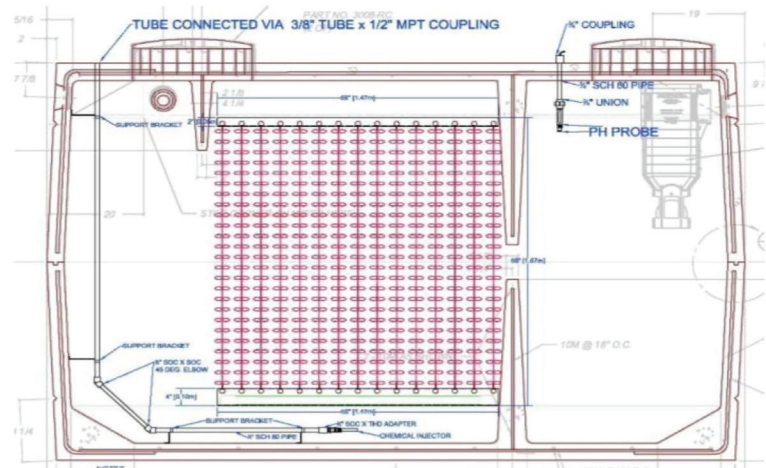
The Legumier had recently installed a system of 4 septic tanks to improve the treatment of the wastewater generated by the vegetable processing. While effective at removing suspended solids from the wastewater stream, an increased level of treatment was required to deal with the dissolved organics and increase the pH to the level required by the New Brunswick Department of the Environment.

The solution:

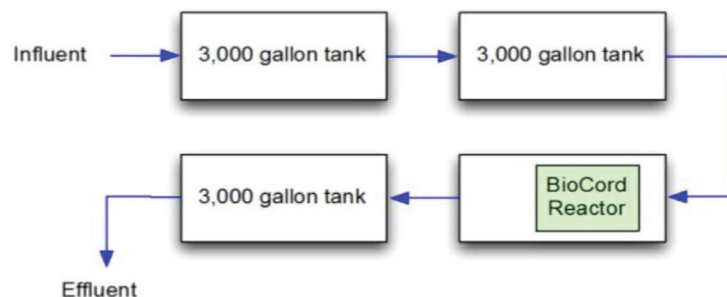
Upgrading the existing septic system with BioCord® Reactor Technology

After examining several alternatives, the Legumier decided on installing BioCord™ Reactor Technology into their existing 4-tank septic system.

BioCord Reactor Technology would provide a surface for bacteria to grow, removing the organics from the wastewater treatment.



BioCord in septic tank design



Process diagram

A chemical dosing system was also installed to maintain the pH level.

Bishop Water Technologies prepared the full design of the BioCord™ Reactor system, including the aeration diffuser system and blower, stainless steel suspension brackets, and BioCord™ media. The pH adjustment system was designed and calibrated by Bishop Water Technologies.

In partnership with Complete Energy Systems of Grand Falls, New Brunswick, installation of the BioCord, aeration and chemical dosing system proceeded quickly, completed in two days. Proper scheduling allowed the Legumier to maintain full production while installation was proceeding.

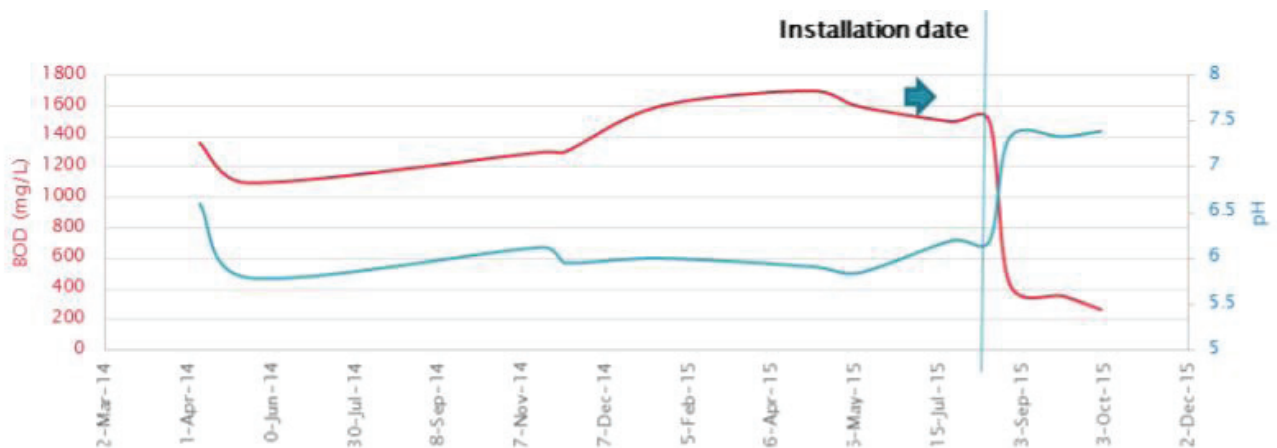
The results:

Improved pH stability and significantly reduced BOD levels.

After a period of acclimatization, the pH adjustment system was able to increase the pH from an average of 5.9 to 7.2, a level much more suitable for the development of treatment bacteria in the system. Initial concentration of BOD ranges from 1300-1600 mg/L, and has been reduced to less than 400mg/L. These results are expected to improve as the amount of treatment bacteria increases on the BioCord.



pH adjustment system and blower



Légumier du Madawaska BioCord installation



Bishop Water Inc.
info@bishopwater.ca
343-361-0463
bishopwater.ca

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