

➤ Eco-efficient Maple Syrup!

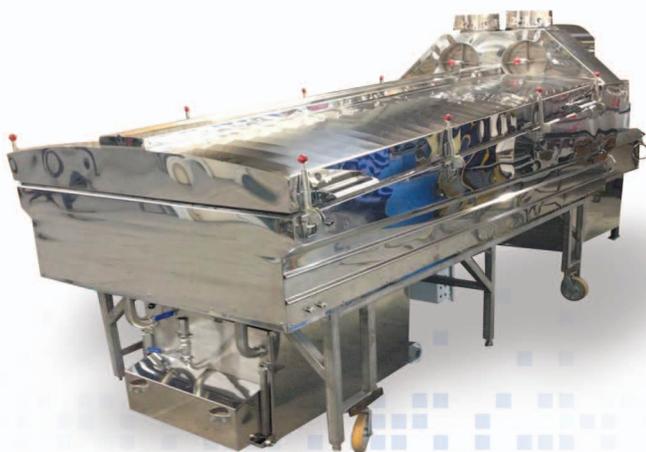
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Maple syrup producers devote a large percentage of their budget to energy, which is primarily used to power and operate evaporators.

However, a team whose members come from the **Novika Solutions** college centre for technology transfer and evaporator manufacturer Tôle Inox has found an innovative solution: the ECOVAP. This new evaporator operates without combustion and can boil maple water at a lower cost and more ecologically.

It all started with an idea of Michel Bochud, a physicist and professor at Cégep de La Pocatière. In 2000, his student David Bédard was about to start working for Tôle Inox. During their discussions, the professor often mentioned that evaporators wasted an incredible amount of energy. The question remained, however: how could this energy be saved? After five years of research and of development, they found the answer!

Maple syrup producers boil maple water to make syrup. During this process, steam escapes, representing a significant energy loss. The ECOVAP transforms this steam into liquid water. This phase change means a lot of energy is recovered, which can then be reused to boil the maple water.



Using this semi-closed circuit, an evaporator can consume 15 to 20 times less energy. With its very low energy requirements, the evaporator can run entirely on electricity. No more having to store wood or oil for fuel!

“Tôle Inox already made evaporators. The company had extensive expertise in assembling and welding stainless steel. At Novika Solutions, our expertise was in heat transfer, thermodynamics, automation and control systems,” explains Jocelyn Caux, in charge of the project at Novika. “The project was a major team effort, which accounts for its incredible success,” recounts David Bédard.

“In May 2012, when we organized our first demonstration, maple syrup producers couldn’t believe what we were saying; it seemed too good to be true,” remembers Jocelyn Caux. Since then, the company has received 11 orders that it is trying hard to fill before the next sugaring-off season. Of the four models available, demand is highest for the largest one because the larger the machine, the greater the savings.

Since the device is completely automated, operators can more easily produce high-quality syrup, with fewer risks. Designed and manufactured in Quebec, this new technology proves that energy recovery can make processes more profitable and more eco-friendly. □