

HydroPotash - a disruptive technological development

Ingo Wender¹

¹Advanced Potash Technologies, Brazil: ingo.wender@advancedpotash.com

Abstract

Eight of the top 10 agricultural nations import approximately 95% of their consumed Potash fertilizer, mostly from Canada, Russia and Belarus. Though the real demand is actually much higher than is currently being imported, high prices, inland transportation costs, and product inefficiency hinder many farmers access to it. In addition, the high concentration of chlorine contained in the MOP (Muriate of Potash) also has significant negative impact on soil and prohibits the application for organic crops. Our aim at Advanced Potash Technologies (APT) was therefore to create an efficient but also affordable Potash fertilizer which could be sourced locally by all farmers, including those focused on organic crops. This talk will detail some of our progress to-date.

The raw materials used in our process are selected potassium-rich rocks which exist in many countries of the world. These rocks, in the vast majority of cases, cannot be used as a fertilizer alone as the release of the contained potassium is extremely slow. We therefore turned to the Allamore research group at MIT, who developed a disruptive low-cost Hydrothermal process to make the potassium in these rocks available for the crops. The resulting fertilizer can be directly applied and contains other important nutrients for the plants (such as silica and clay components).

The patented process generates no by-products or waste and has a much lower carbon footprint than the established industry players. In addition to experimental work at MIT and process scaling at École Polytechnique de Montréal, APT has also recruited the support of EMBRAPA, a Brazilian agricultural research corporation, to conduct extensive third-party agronomic tests. We are now preparing to present our product to Brazilian farmers, with the aim of globally commercializing in the near future.