Finding the right treatment

CEO builds on award-winning sewage-to-fertilizer discovery

BY MALCOLM PARRY, VANCOUVER SUN SEPTEMBER 9, 2010

FLUSHED WITH SUCCESS: Ostara Nutrient Recovery Technologies Inc. president/CEO Phillip Abrary is happy for University of B.C. professor Don Mavinic. As reported in The Vancouver Sun on Wednesday, Mavinic won a $25,000 Manning Innovation Award for discovering how to extract phosphorus from treated sewage. All that was left for microbiology graduate and chartered accountant Abrary to do was increase Mavinic's pilot demonstration 100 times. Then he had to find someone to commission a $1.5-million extraction plant that would output 500 kg a day of fertilizer priced two to three times higher than the 4.8 million tons of commercial product Americans buy yearly. All this while the economic downturn forced prices down 70 per cent.

Still, the 25-employee firm Iran-born Abrary, previous partner Ted Jones and lawyer Joe McHugh founded by licensing the Pearl technology from UBC's University Industry Liaison Office did overcome those challenges. Ostara also won recognition this week as the only Canadian firm named to the World Economic Forum's 2011 class of Technology Pioneers. And next week looks even rosier. That's when a market shipment of Crystal Green fertilizer will leave a York, Pa., facility to be opened by Gov. Edward Rendell and Ostara director Robert F. Kennedy.

The first such facility was in Edmonton, funded in 2007 by the city, Ostara and the federal government's Sustaining Development Technology Corp. Portland, Ore., followed in 2009, and Suffolk, Va., this May. Installations usually entail multiples of Ostara's 500 kg-a-day reactor module. Abrary said a four-times larger unit under development will reduce output cost by half. And phosphorus recovery from sewage plants may be doubled if a continuing development extracts it earlier than at present. The plants themselves are capitalized by the user -- usually municipalities of more than 100,000 -- from whom Ostara purchases the fertilizer produced. Plants pay for themselves in three to five years, Abrary said.

How come Crystal Green is priced so high? The fertilizer's nitrogen-magnesium combination sees it release for up to 12 months, thus reportedly reducing initial spread, subsequent wastage and environmental consequences. Such sustain-ability qualities lead to Nike Inc. specifying Crystal Green for its world headquarters in Beaverton, Ore. "So, people do care about what they put in the ground," Abrary said.

Just as well, as the world is reportedly running out of naturally sourced phosphate. But human sewage is literally a phosphorus mine. "And animals produce more again," Abrary said, albeit less convenient to centralize and process. Meanwhile, with pilot projects completed in the U.S. and the Netherlands, production partnerships are expected there shortly, he said.

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MAKING DOUGH: Selfconfessedly "the most risk-averse person imaginable," Lydia Lai, 26, has rocketed off the entrepreneurial launch pad. The Creme de la Crumb Bake Shop & Catering firm she