

Are we giving crap a bum rap?

'We have to look at waste as a resource,' prof says

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As Don Mavinic takes a sip of hot tea, he mulls over a question that's been around since the first human ran behind a nearby bush to pee.

How can you possibly turn that into a business?

Soon enough, many of the basic elements of Mavinic's morning drink, along with whatever he grabbed for breakfast, will be flushed away.

The best that's often done in Canada, after ringing the toilet bowl, is it's cleaned up a bit before being jettisoned down a river or into a harbour.

But is Canada wasting all that waste? Have we been giving crap a bum rap?

Mavinic, a civil engineering professor at the University of British Columbia thinks so, and so do a growing list of experts pondering the future of our feces.

"We have to look at waste as a resource," says Mavinic, who ten years ago came up with a way to get rid of a bothersome and expensive precipitate that clogs the pipes of most wastewater treatment plants.

Instead, the solid crud, called struvite, was mined for important nutrients plants need to grow, including phosphorous — which is a non-renewable mined resource.

What were once the dregs of the dregs became an environmentally safe and slow-release fertilizer. Five years ago, it all turned into Ostara Nutrient Recovery Technologies Inc., a company that lists Robert F. Kennedy Jr. on the board of directors.

The technology is now being used in Edmonton, Portland, Oregon, York, Pennsylvania and only recently in Suffolk, Virginia.

Basically, urine — where 85% of the nutrients are found — is being used to grow food.

"Let's look at waste as a resource," says Mavinic, who began his research after B.C. Hydro asked for help in adding nutrients to reservoirs behind their dams.

"(Sewage) is a sustainable resource for as long as we have warm blooded beings around," he tells QMI Agency.

Researchers are now busy trying to find a way to cultivate the phosphates in livestock — each pig and cow pumps out a nutrient bonanza equal to 16 to 20 people. Once that riddle is solved, Mavinic says, Canada won't need to import any more fertilizer.

But he's not the only one trying to mine our golden streams.

In another five years, Bruce Logan, a professor at Penn State University, is expecting to have commercial reactors online that will take the chemical energy in sewage and turn it into usable electricity.

The process would ease the burden on the amount of power needed just to treat wastewater.

In China, researchers are using untreated sewage to heat and cool buildings. Their system pulls out warmth from human droppings, and also uses it to absorb unwanted heat given off by air conditioners.

Communities in dry areas are even looking at ways to tap directly into sewage systems to withdraw safe drinking water.

Then last December, NASA announced it had developed a way of creating biofuel out of algae grown in wastewater.

Still others have turned the ash from incinerated sewage sludge into bricks to be used as construction materials.

As more humans divide up the world's limited water supply, these new breakthroughs will become vital, says Norbert Schmidtke, a Canadian independent consultant with over 45 years dealing with wastewater.

But he worries our country may be falling behind in developing and having the will to bring new systems online.

"I don't see a clear national strategy ... and it's more than just throwing money at it," he explains from his home in Plattsville, Ont.

He'd like to see a unified effort among universities, government programs and a willingness of municipalities to take a chance on budding systems.

Schmidtke also argues that ordinary Canadians should start appreciating their part in the debate. Because today's pee — somewhere down stream — will become someone else's cup of tea.