

BUSINESS

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Zapping waste for a profit

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James Tretheway, left, president and chief executive of Biolonix, shows off an early model of the company's wastewater disinfecting system, while Dennis Bahr, senior engineering manager, holds up a newer pilot version. The cylinder connects to a generator - about the size of a small microwave oven - that produces an electromagnetic field, creating hydrogen peroxide that disinfects sludge.

McFARLAND - A young company here hopes to clean up in the waste business.

Biolonix says it has developed technology that can remove most of the bacteria in various types of liquid waste - from human feces to industrial waste - using electrical current.

That means, in simple terms: It could turn poop into potting soil.

"We would be disinfecting and reducing odors to a level that ... (the treated waste) could be used directly on farmers' fields and in backyard gardens," said Jim Tretheway, president and chief executive officer of Biolonix.

The technology was invented by two Milwaukee-area electrical engineers, Ken Schlager, of Hartland, and Steve Gorski, of Eagle.

Schlager convinced the village of Jackson - about 30 miles northwest of Milwaukee - to test an early version of the system from 2002 to 2005; now, the village is slated to buy one of the first commercial systems.

"We're excited about it," said Brian Kober, Jackson's public works director. "The early testing on it looks like it could be the way of the future of how to treat biosolids."

Biolonix is also making other strides. Incorporated in May 2005, Biolonix moved in September into office and warehouse space at 4603 Triangle Street, near Highway 51 and Voges Road.

It has four employees and two patents, with more patent applications filed.

The company recently closed on its first round of funding totaling \$1.67 million from 15 investor groups in Wisconsin, Illinois and New York. One investor is Thomas "Rock" Mackie, co-founder of TomoTherapy, one of Madison's fastest growing companies, which makes specialized cancer radiation therapy machines.

"I like (Biolonix) because it's a green company - it has the potential of being able to do something about odor from pulp effluent, (about) municipal wastewater. I think it's an intriguing idea," Mackie said.

Here's how the system works:

Wastewater runs into a cylinder charged with a high- frequency electromagnetic field. The electromagnetic field breaks apart water molecules in the sludge, creating H₂O₂, or hydrogen peroxide, that kills much of the bacteria in the wastewater. Then, the hydrogen peroxide breaks back down into water and oxygen.

It's a safe technique, said Dennis Bahr, senior engineering manager. "That's real important. We're not adding anything to the water - just electromagnetic fields," he said.

It's taken six years to test and develop the system, Tretheway said, and the result is a process that's quicker and less expensive than traditional methods, which use chlorine, ultraviolet rays, or bacterial forms.

Tretheway said the system can also be used for brightening paper and textiles, eliminating the expense and hazard of transporting hydrogen peroxide to those plants in concentrated form.

He said Biolonix expects to have three systems operating by September 2007. Within five years, the company anticipates \$53 million in sales and 80 employees, Tretheway said.

Kober said the system will save the village of Jackson the cost of hiring a contractor to haul off its sewage sludge and either dump it in landfills or inject it into farm fields, below ground level.

"Then we could sell it to nurseries as topsoil ... and actually make money off it," Kober said.