

TRVERSE CITY RECORD EAGLE

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THURSDAY

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Fruit processors



Record-Eagle/Douglas Tesner

Ron Prentice, left, president and general manager of Cherry Growers, Inc., talks with Kevin Ringwelski, of Gosling Czubak Engineering Sciences Inc.

Technique may solve issues with water waste

*Air-sparging is also used
in petroleum cleanups*

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TRVERSE CITY — An area fruit processor may solve a growing, expensive problem: how the industry treats its waste water.

Grawn-based Cherry Growers Inc. will spend at least \$100,000 to pilot the use of air-sparging, a proven treatment for petroleum cleanups, to reverse problems created by the high sugar content in its waste stream.

"It's pretty cool and nice that they are doing this," said Janice Heuer, an environmental engineer in the Cadillac office of the Michigan Department of Environmental Quality. "It could address a problem that's pretty common up here with food processors."

Processors historically treated waste water through spray irrigation, in which they use common farm irrigation equipment to spray liquids on fields.

"It's sugar water they are putting on the field and you wouldn't think it's a problem," Heuer said. "But it creates a very inter-

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esting chemical reaction just discovered around the turn of the century."

Naturally occurring bacteria in the soil devour the sugar and other food wastes, but over time the subsoil, mostly what's saturated with groundwater, goes from an environment with free oxygen to one without.

Bacteria then steal oxygen molecules from metal compounds in the soil. The metals, usually iron and manganese, dissolve into the water and become mobile.

Iron and manganese are not hazardous wastes, but at high concentrations they become a real nuisance, Heuer said. Iron turns water red, while manganese turns water black and can impart a rotten smell.

Cherry Growers has a documented plume mostly comprised of iron moving west of its plant on U.S. 31 in Grawn. The DEQ requires the processor to address the problem when the plume

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contaminates drinking water wells. To date, one well has been affected, said Ron Prentice, Cherry Growers' president and general manager.

Cherry Growers has more than 400 acres on which to dispose of waste, and could

move and expand its current 70-acre field. But that would delay the inevitable, Prentice said.

"We have to find an acceptable way to address the whole problem," Prentice said. "This is a grower-owned organization and the growers are pretty responsible stewards of the environment ... their livelihood depends on it."

The proposed fix, air-sparging, is the process of pumping air into the groundwater.

Similar to blowing bubbles through a straw, as bubbles rise, oxygen is transferred to the soil, meeting the bacteria's demands, said Kevin Ringwelski, a geologist with Gosling Czubak Engineering Services Inc.

If it works, the process will stop the leaching of metal particles and cause already dissolved metals to reattach to the soil.

"It's basically a technology that's been around and used for the last 20 years in petroleum and hydrocarbon cleanup, and we're looking to use it for food," Ringwelski said. "It can be used at other locations, but each site has to be evaluated to determine if it will work."

Prentice said he expects to know if the system works for Cherry Growers before year's end. He plans to expand the treatment area quickly, if early test results are positive.

The system should not exceed \$1 million, Prentice said. That compares with estimates of \$5 million for the company to create its own wastewater treatment plant and annual operating costs of \$350,000 to \$500,000 a year.

"I've been in this industry for 52 years and I'm pretty excited about this," Prentice said. "We'd find a technology that's affordable and takes care of the problem and if we're right, will be more acceptable to the general public than other alternatives."

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