

NEW MEXICO BUSINESS WEEKLY

EXCLUSIVE REPORTS

Firm cuts the grease

Andrew Webb

NMBW Staff

What's the one thing you need to keep grease-eating bacteria happy in the smelly, underground pit they call home?

The answer, as it turns out, is simple -- oxygen.

That's what Albuquerque businessman Dean Keller learned when he asked Sandia National Laboratories to take a look at his company's main product -- a bacteria used to eat food service grease. A year after learning that Enviro-Care Services' product did, well, nothing, he's on the verge of going nationwide with a product he and others believe could revolutionize the way the food industry interacts with city wastewater treatment services.

"I was pretty bummed when I found out it didn't work," says Keller, a former manufacturing company executive who purchased the 10-year-old restaurant grease trap maintenance firm about year ago, after moving to New Mexico from North Carolina.

Professional kitchen drains are often routed to a single 1,000- to 2,000-gallon holding tank, usually buried under the parking lot. Baffles in the tank trap the grease, and the water then flows through the other end.

Pumping services are hired to empty the tanks regularly, but that can get expensive, says city industrial waste engineer Stuart Reeder, so restaurants often let them go too long before emptying, and eventually

they start allowing grease into the sewer system.

Restaurant grease and tree roots are the two main causes for sewer system backups, Reeder says, and wreak havoc with the city treatment plant already busy enough with the 50 million gallons of wastewater Albuquerqueans produce daily.

The city regularly tests restaurants and other food producers for the amount of grease released to the wastewater plant, and those that send too much pay a surcharge of about \$1.03 per 750 gallons of water used daily.

When Keller took the helm of Enviro-Care, which promised fewer pumpings and cleaner traps by combining trap and drain maintenance services with its bacterial inoculations, he says the maintenance component seemed a valuable service.

But within months he began to have doubts about the bacteria. He called Sandia's Small Business Assistance program, which hooked him up with biochemist Gary Brown. What Brown discovered was disheartening. The bacteria died off quickly once introduced to the inhospitable environment. Enviro-Care serves about 100 customers, among them restaurants, casinos, nursing homes and theaters.

"He found out the bacteria work under the right conditions, but not in the grease trap, because there's no oxygen," Keller says. "They couldn't do their job because they're aerobic. We determined that it was working marginally, if at all."

Before purchasing the firm, Keller had consulted various studies that said the bacteria worked. Now, he says, he realizes those studies came to the same conclusion as Sandia's chemist -- they work, but only in lab conditions.

He says he considered legal action against the previous owner, but his legal counsel said he'd have no case if he couldn't prove the seller knew the product didn't work in the greasetrap.

"I wasn't pleased, but I took the approach that, well, I'm in this situation now, and I needed to fix it," he says. "When I bought the company, I thought it would grow on the basis of the original product."

It didn't take long to find a solution.

"After a bit of testing, we discovered that aeration -- making a lot of little bubbles in the water -- was the most effective thing we could come up with," Keller says.

"Essentially, they're making a little wastewater treatment plant right in the grease trap," Reeder says, noting that he was surprised no one else had thought of this before. "It's the exact same thing we're doing here. They're just doing it on a smaller scale."

Using off-the-shelf aeration pump systems, Keller and Brown designed a system that could be placed in the bottom of grease traps, releasing tiny air bubbles into the water. The resulting churning also eliminated the sheet of grease and food particles that typically floated on the top of the trap, further limiting bacteria's access to oxygen.

Since developing the system early this year, the company has installed it in about 30 food service businesses in Albuquerque, Santa Fe and Gallup, and so far, the bacteria seem happy.

"It's been like night and day," Keller says. "With the air in the water, virtually all solids and other accumulated material go away."

The byproducts of the bacteria, which reproduce every 15 minutes or so, are relatively harmless carbon dioxide and water. As a bonus, the strong smell caused as the grease rotted in an oxygenless trap also disappeared.

He and Brown have applied for a joint patent on their aeration method. Mariann Johnston, manager of the Sandia Small Business Assistance Program, says the lab is working out the business details with Enviro-Care.

In the meantime, Keller has set up Aero-Life Systems LLC, a company formed to distribute the product nationally and provide support to installers. The company is also developing a new Web site to help educate potential customers.

"The challenge will be educating people," he says. "In this case, seeing and smelling is believing."

He estimates that the device could save restaurants anywhere from \$3,000 to \$10,000 per year in excess pumping charges and city sewer fees. The system, which costs an average of about \$1,200, could pay itself off within a few months, he says.

Meanwhile, Reeder says he will continue to monitor the company's case studies, and might consider proposing a city code mandating the use of such systems. Restaurants that use the system and send less grease to the city's treatment plant may apply for suspension of the surcharge, he says.

"Grease is a big deal," he says. "Once it gets down here, it's pretty hard to digest."

awebb@bizjournals.com / 348-8324

→ [Web reprint information](#)

All contents of this site © American City Business Journals Inc. All rights reserved.