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Termite finder a gas: Lodi man patents device to track pests' windy trail

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LODI -- First there was termite flatulence, then electronic sniffers, and then there was U.S. patent 6,526,692, on a termite finder that basically amounts to sticking a stake into the dirt.

Is America great or what?

Terry Clark, the 40-year-old vice president of Clark Pest Control in Lodi, is pretty happy about the chain of events.

He and his family not only have a growing and thriving business charging businesses and homeowners monthly for the right to kill various bugs and spiders on their property, they just went through about \$135,000 and 21/2 years with patent lawyers to guard their termite-flatulence finder.

This is not so much to market their system elsewhere but to protect what they say is a simpler, cheaper way to find and eliminate termites in the yard before they get to house wood.

It's a system they've been using for five years, with about 10,500 customers in their Northern California service region, Clark said.

"It keeps somebody from stealing my ideas, patenting it and then telling me I can't use it anymore unless I pay them," he said. "The interesting thing is, I was able to patent putting a stick into the ground. I was amazed that nobody else got there first."

Most people have heard that termites are terribly efficient at crunching wood. It turns out that they're also terribly efficient at, well, breaking wind, one might say.

Seems as if eating a lot of roughage, such as termites do, produces a huge gas problem for termites. Bacteria in the termites break the wood fibers down into sugar, producing as an offshoot what is scientifically and euphemistically called methane.

"If you ate wood, you'd have that problem, too," Clark said.

Among other things.

Anyway, detecting the presence of methane is an accepted way of sniffing out termites with, for example, a handheld electronic sensor commonly available on the market, he said.

This all started when Clark's dad, Charlie, walked up to him one day and flipped a convenience-store cup lid onto his desk and said simply: "That's what we need."

Even Terry Clark, who is a professional bug-killer guy, didn't get it immediately. The idea was that a plastic disc lying atop the ground would cast a shadow to anything under the turf, say termites looking for eats.

Now termites, in addition to being sensitive to smell, despite their methane-production propensity, also are thermally sensitive.

This means that a circular shadow on the turf suggests a tree, which a termite will work over with the same enthusiasm as one of your doorways, Clark said.

The so-called Term-Alert device basically is a short wooden stake attached to a green plastic disk and thus resembles a very large tack, which is then cut into the ground with a tulip-bulb cutter. ::: Advertisement :::

The stake is made of the same Douglas fir of which house wall studs typically are made. Plus, there's a termite-tasty cardboard wrap around the top of the stake that acts sort of as a pulp icing on the wooden cake, Clark said.

"It's like junk food for termites," he said.

(Adding insult to termite injury, this cardboard wrap -- get this: It's nontoxic -- carries the Clark company logo, as if termites could read in the dark or otherwise. Potential dialogue between two approaching termites: "Clark? Ooh, he's good!")

The termites eat the tasty cardboard wrapper and then start on the wood. Then, termites being what they are, they start producing methane.

A pest-control person on quarterly rounds sticks the sniffing nose of the methane sensor into a small hole in the Term-Alert lid and tests for methane. If it's a beep, meaning yes, it's on to Phase 2.

"I don't like to use the 'P' word," Clark said.

So instead of poison, the weapon is a substance that he terms a behavior modifier. As in how alcohol modifies behavior. So "P" in this case might stand for "plastered."

The termites get fed the behavior modifier, which gets deposited with what looks like a hypodermic plunger and needle sufficient for disturbing an elephant. The termites feed on this and soon stop being troublesome, Clark said.

"It's like a kegger," he explained. "They don't feed. They don't go back to the nest. They don't take food back to the babies."

Like drunken keg-party revelers, they get so loopy they fall out of the termite social network, living out the remainder of their lives dizzy, disoriented and dying, Clark said.

Stakes are spaced around the perimeter of a house lot about 10 to 15 feet apart, with a couple placed close to the structure. That amounts to about 20 to 25 stakes for the average house.

Clark said he developed the system because other ground systems, known as "baiting stations," are bigger, harder to install and much more expensive up front and for subsequent monitoring.

One effective system planted in the ground involves wood and an embedded metal strip that sends out an electronic signal when termites have eaten a sufficient amount and disturbed the seal.

That system proved not to be an easy sale, Clark said, costing about \$1,600 up front and \$50 a month to monitor, vs. \$200 initially for Term-Alert and \$30 a month.

Detecting methane is one thing, but saying it's the product of feeding termites is another, said termite specialist Vernard Lewis, a Cooperative Extension entomologist at the University of California, Berkeley.

"Termites certainly produce it," he said. "It's just that there are a lot of things out there that produce methane gas beside termites -- rotting fruit, dogs passing gas. So it's hard to determine when they (electronic sensors) beep whether it's termites."

Even certain types of soil have methane, he said.

Steve Scoville, president of the Pest Control Center of Sacramento, said he has seen the Term-Alert device but hasn't talked with the Clark Pest Control people about the device. (His company is a pest-control competitor, although he sold off the termite-control part of the business three years ago, Scoville said.)

"To me, it's just a stick in the ground, basically," said Scoville, who also is an officer on the board of the Pest Control Operators of California. "It's no big deal."

And he's never seen any data on termite methane production, he said.

Then again, Clark Pest Control has a top reputation, he said, and maybe it has found a niche with the less-expensive detector.

Cindy Mannes, spokeswoman for the National Pest Management Association, called methane detection to find termites "new technology."

The traditional way in the industry is finding termites through visual inspection -- looking for the termites themselves or destroyed wood, she said.

The other traditional method involves baiting systems that draw termites to feed, which also is determined by visual inspection, she said.

Dennis Patzer, chief enforcement officer of the Structural Pest Control Board of California, said handheld electronic methane detectors are sometimes used to try to find termite activity in various nooks and crannies of a house, he said.

He said the Clark system could be a viable detection device, "but once you get the reading, you would have to physically check to see whether there's an infestation."

Clark said sensor methane detection is all that's needed to start treating for termites.

"We don't want to disturb the termites before we treat them, or they'll run before we put down our control materials," he said.

Clark said Term-Alert is cutting-edge and as such may draw some skepticism.

"We don't say it's 100 percent that there are termites in there," he said. "There could be methane in there from another source, but offhand, I can't think of anything that could produce enough to be picked up by the sensors. ... It's peace of mind for a small amount of material."

Over 53 years, Clark Pest Control has created a service area with 17 offices from Redding to Fresno and from the Bay Area to the foothills.