

INZECTO's HydroTrail features the compound 2-PE, which creates a highway that helps termites find bait stations.

By Kristen Hampshire

Jacob Cohn rewinds to his time in the Louisiana State University entomology lab 16 years ago when he watched a surprising termite demonstration that captured his curiosity. After drawing a straight line on a clean sheet of paper using a ballpoint pen, termites were introduced to the “landscape.” They abandoned typical zig-zag foraging and trailed along the line like marching cadets.

“The technology and science were there, but no one had adapted it to make it an additional tool for termite control,” said Cohn, CEO of Baton Rouge, La.-based Arrow Termite and Pest Control, a third-generation, family-owned business.

Why ink? What ingredient in a mundane writing utensil is so attractive to termites?

Entomologists and industry partners have been exploring this connection for years in labs, on paper.

Now, researchers say efficacy evidence has been proven in the field on both Formosan and native subterranean termites. Initial studies were conducted by master's student Luke Prescott, working with Dr. Phil Koehler, professor emeritus, University of Florida (UF). Those initial studies were modified and patented to make them practical and more effective for pest management professionals by pest insurance and risk management professional Allen Fugler, through his association with Gregg

Henderson, emeritus urban entomologist professor at the Louisiana State University AgCenter, and Enrico Levi, owner of Florida Insect Control Group.

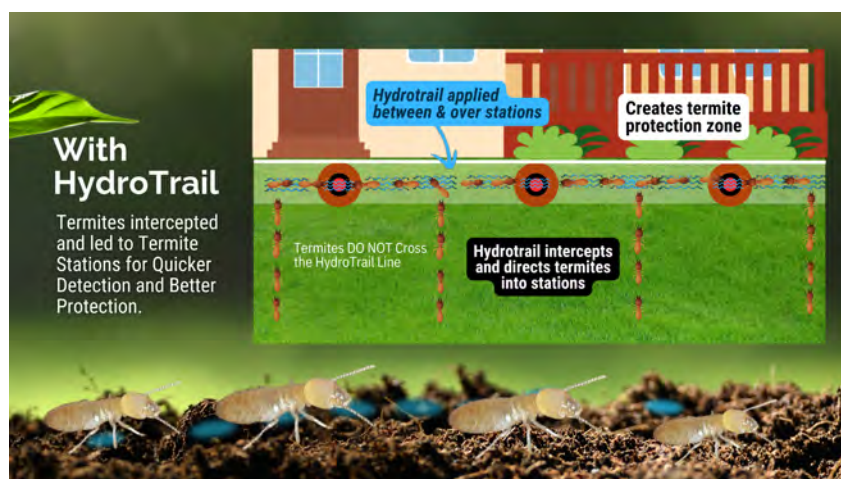
The termite-tempting compound: 2-phenoxyethanol (2-PE), commonly found in pens for retaining the glide (moisture) and cosmetics, where it acts as a food-grade preservative to prevent bacterial growth. 2-PE is a moisture-absorbing glycol that mimics termites' primary trail pheromone, dodecatrienol, which basically signals to foragers, “Follow me!”

The compound creates a highway, and

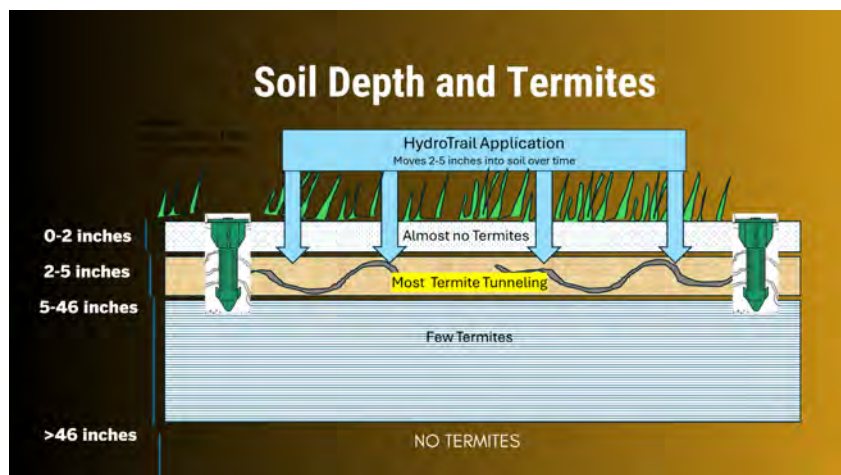
short-cut, to termite bait stations, improving detection speed and treatment success while preventing termites from bypassing stations, a known practice, according to Koehler, who also serves as director of science, INZECTO. He said 93% of pest management professionals (PMPs) believed termites could tunnel between bait stations to reach structures.

The pied piper nature of 2-PE's luring signals to termites is captured and headed to commercialization (no EPA approval required) with INZECTO's HydroTrail, which launched at PestWorld 2024. Field





Hydrotrail creates a protected zone around structures.



Over time, HydroTrail moves 2-3 inches into the soil, which is where most termite tunneling occurs.

trials conducted by select PMPs on HydroTrail's Innovators Council are showing the product's traction in guiding termites to bait stations and treated areas.

Cohn recorded more bait station activity on a site where HydroTrail was applied in connection with half of the property's baits. "We had two or three hits per station with HydroTrail and zero hits on the others," he said.

THE INK TRICK. Why not draw termites to bait stations rather than gamble with chasing them before they damage a structure? Koehler asked himself this question several years ago when looking at condos for his son. Viewing the transaction through an urban entomology lens, he brought a skilled friend to the inspection,

a termite-detecting dog, that whiffed out a trail.

While the condo had been treated for five years with bait stations and the pest control company produced clean reports, there had been an unrecognized termite presence in the unit. Koehler asked the company, "What do you do in a case like this?" They told him, "Move the bait until you find termites."

"I thought, that is probably not a good way to go. It's probably much better to move the termites to the station, so that is where I started thinking about how we could do this," Koehler said.

Koehler knew about the "ink trick," as did other entomology researchers and industrialists interested in termites. Eventually, in-depth studies and product devel-

opment were conducted in conjunction with Florida Insect Control Group and UF culminated into 2-PE field trials. The first were conducted over several months in 2022 in Ocala, Fla., at a site with Formosan subterranean termites with 20 in-ground bait stations along a tree line.

The trial involved alternating HydroTrail treatments and water, the placebo. Four-foot-long lines of HydroTrail were applied leading up to the stations. After the soil applications, which can be made with a backpack sprayer, the site was checked monthly.

Throughout the study, there were no hits on the water-treated stations, and five of the 10 2-PE treated stations were active with termites.

"The termites did the same thing outdoors as they did on paper trails in the lab," Koehler said. "It was amazing to see they will follow a line of HydroTrail-treated soil to a food source. I had never seen anything quite like that before."

Before deciding on 2-PE, Koehler and team investigated a suite of six glycol compounds. "Even though the termites marginally responded to the other glycols, the 2-PE elicited the greatest response by far," he said, noting that about 90 percent of termites would choose 2-PE over water (the control).

2-PE is a one-two punch compound for termite attraction because it mimics their dominant pheromone and its chemistry accumulates moisture. "You end up with high-moisture zones, which termites prefer, so there are two modes of action that bring termites to the place you want them to go," Koehler said.

A 'NO BRAINER.' Following initial field studies, the group formed an Innovators Council of PMPs to test HydroTrail, with active ingredient 2-PE. When Cohn was invited, "it was a no-brainer," he said.

Arrow Pest is located in the termite belt of southern and southwestern states, and Cohn's Baton Rouge business sees numerous Formosan termite cases.

"They have become the dominant species here because their colonies are bigger, they eat more and more quickly, and they're more aggressive," said Cohn, who says Formosan termites are "what people here on the Gulf Coast know."

One of Cohn's tests with HydroTrail

involved placing a bait station 2 feet away from a termite tube (tunnel). He applied a 1- to 2-inch-thick line of the treatment connecting the station to the subterranean tube location, hoping to draw them into the station.

Termites immediately picked up on the 2-PE attractant and within a few days were feeding in the station, Cohn said.

Scott Kight conducted field trials for Fort Myers (Fla.) Pest Control, where he is a certified entomologist and general manager. He had installed bait stations a few months prior at a condo complex with 10 buildings and a pool house.

"This gave us an opportunity to test untreated and treated areas on one site, and we took a leapfrog approach," he said of alternating from treated and untreated stations. The three-month trial with checks every 30 days resulted in 11 new hits, six of which were in treated buildings where "the actual feeding in stations was heavier."

One bottle of HydroTrail can treat two to three average-sized houses.

"It reinforced something I've known for years," Kight said. "The termites are here. I just have to get them to the station."

Because Kight had baits in place prior to the trial and already had achieved control in one building, he said the results might be swayed. However, with control in just one building out of 10 before HydroTrail, he maintains the tool is a low-cost, easily applied booster that can produce more focused protection.

SELLING 'HITS.' Since completing his trial, Kight began including HydroTrail in all existing correction programs where



there is termite activity in a structure. In March, the company rolled it out to new termite bait station installation customers.

Both Kight and Cohn see opportunities to monitor and then sell termite protection services to new and existing clients. Kight said with so many Gulf Coast vacation homes, part-time residents often do not realize the level of termite pressure and potential damage.

Levi, of Florida Insect Control Group, said vacation homes are often bought and sold quickly in his state. Termite inspections may show up clean — like what Koehler experienced when condo hunting with his son. But those home-only assessments neglect the landscape. "This is an option for new buyers to verify that they are not under siege of termites," he said.

"Selling termite prevention is harder for those with less exposure to termites," Kight said. "If we can show them the termites are there, they will be motivated to treat their properties preventively."

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Cohn is crafting a termite monitoring program that will validate a need for preventive service, targeting clients who may be price-sensitive or require more education. He sees HydroTrail and a station with cellulose (non-treated) bait as a tool for identifying whether termites are a problem without a lot of expense.

"It's a solution for people who want to do something but may not believe there are termites or have the money to spend, but if you prove they are there then you can upsell the full baiting system or treatment," Cohn said.

Fugler added, "If you check a bait station with no hits on it because termites averted it, the account is a tough renewal sale."

The termite guiding technology has potential to boost customer satisfaction, termite control efficacy and account retention, Levi said. "It elevates the level of control and protection that existing methods already provide," he said.

“It’s a solution for people who want to do something but may not believe there are termites or have the money to spend, but if you prove they are there then you can upsell the full baiting system or treatment.” — Jacob Cohn

Koehler agrees, noting success of the “sensory moat” HydroTrail establishes that reroutes termites toward bait stations and treatment zones before they have an opportunity to infest a structure. Aside from the dual-action of 2-PE as a termite and moisture attractant, the active ingredient changes termite behavior from fractal, erratic movement to linear trailing toward traditional termiticide and bait station treatments.

Levi added, “Our studies have established that termites find stations faster and more easily. They will not cross the sensory path, so the moment they find the trail, they divert to it and go to the

stations. It’s better protection for the structure.”

For eco-conscious consumers, the food-grade active ingredient is a lower concentration than what is found in over-the-counter eyedrops. “It’s found even in cosmetics, so people are putting it on their skin right now all around the world,” Koehler said.

LITIGATION AND CLAIMS. Termite pressure and the latest treatments to combat these wood-destroying pests have never been better, said Fugler. Lawsuits from emerging specialist attorneys at boutique firms chasing claims also have

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never been greater. "That drives up insurance rates," he said.

Cohn said his broker encourages taking every termite mitigation step possible in the hot zone of southern Louisiana. "They want us to use anything at our disposal to help keep our claims down and offer clients more solutions to controlling termites," he said.

Termites are the largest dollar volume pest control claim at Select Insurance Services of Westchester, N.Y., said Frank MacDonald, president. "From my perspective, anything that can cut down on termite claims in terms of damage is beneficial to customers and the carriers I represent."

Claims decreased dramatically when nonrepellent termiticides were introduced in Louisiana, said Andy McGinty, CEO, LIPCA Insurance, Baton Rouge. "Anything that could exacerbate the attention of termites to get to the bait station" is a benefit, he said.

From a risk mitigation angle, taking more steps to reduce risk of claims is positive. McGinty, a claims specialist, said he walks into these scenarios with a critical eye. "I'm optimistic that this could be a positive for the industry."

McGinty said general liability guidelines include a proven-technology discount for certain products and HydroTrail would be a definite contender.

Other proven technologies can be cost prohibitive for PMPs, such as thermography cameras for detecting wood-destroying insects that cost thousands, McGinty pointed out. HydroTrail is an easy-entry, simple application add-on to enhance already in-place termite prevention and treatment, he said.

PMPs can use equipment they already have such as mounted tank rigs and backpack sprayers.

Levi said HydroTrail is under consideration by all major manufacturers in the industry and is tied to a nondisclosure agreement. "I think there is a demand to improve the level of protection that the current systems provide," he said of the complementary solution — another tool in the existing termite prevention and protection repertoire.

WHAT'S NEXT? How long until HydroTrail is available in the marketplace as a plug-and-play termite add-on?

Levi cited a three-year period based on his company's experience introducing mosquito baiting systems. Currently, ongoing research is centered on refining the application process to make it faster and more efficient for pest management professionals. The goal is to establish HydroTrail as a gold standard to enhance termite control.

Now is year one, when early adopters are introducing the solution to customers.

"Their technical departments need to prove it works," Levi said.

Year two usually involves integrating the solution into service protocols and marketing the opportunity.

The third year is generally focused on training PMPs. Levi noted the company trains crews via webinars for those who want support.

Kight said he is optimistic. "The results are proving that we can try it on a bigger scale." **PCT**

The author is a frequent PCT contributor.

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