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MARCH 2008



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tyratECH

takes aim at pests

Green Tech Poised
to Replace Harmful
Chemicals

BY ANNE STRAUB



TyraTech wants to change the way the world exterminates pests.

The Melbourne company's products use naturally derived materials to control insects and parasites without the toxic chemicals coming under scrutiny for possibly harming the environment or endangering the food supply.

The difference between TyraTech insecticides and other natural approaches that have been tried: "They work," according to CEO Doug Armstrong.

The key in TyraTech's approach is the discovery of chemical receptors on invertebrates, such as insects and worms. TyraTech's screening process identifies compounds that target certain receptors, resulting in the organism's death. The receptors are not found on humans or animals, so they are unaffected.

The proprietary screening process was developed at Vanderbilt University in Tennessee as an offshoot of cancer research and then acquired by XL TechGroup. The Melbourne firm creates companies to develop technologies to meet unmet business needs. XL TechGroup provided the initial funding to launch TyraTech in May, 2004. The company now operates laboratories in Melbourne and at Vanderbilt.

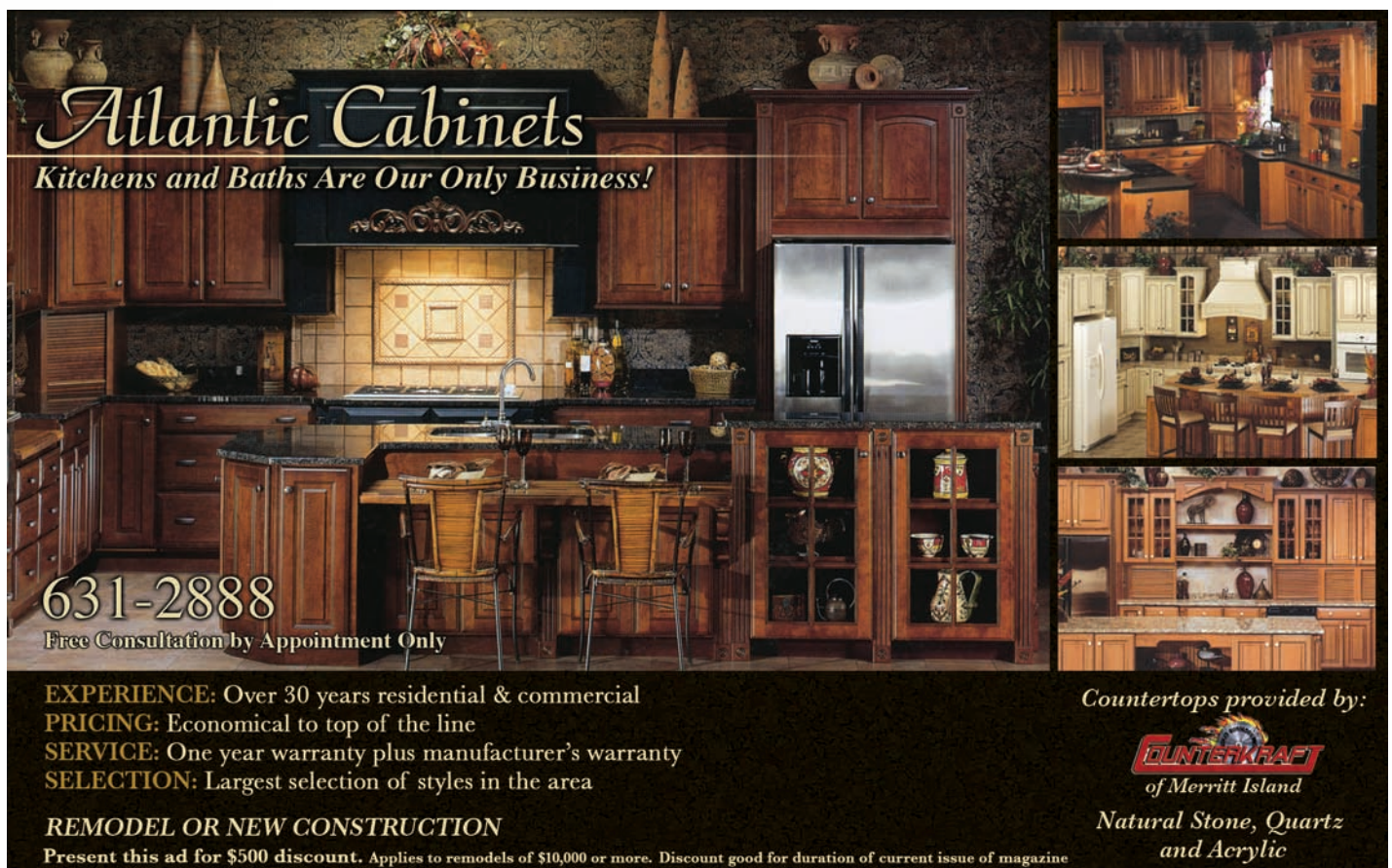
The company released its first product, a trigger spray insecticide for use in the hospitality industry, in October. Restaurants are particularly interested, Armstrong said, because the product can be used in the same areas where food preparation takes place. The product is being distributed by Sysco Corp.

Pesticides for home and garden, as well as for large agricultural customers, are in the works. TyraTech also has struck partnerships with large companies, including Kraft Foods, to develop other products.

Those collaborations and the size of the market are a potent combination. "They've got the potential to be huge," said Robin Campbell, an analyst who follows TyraTech for Jeffries International in London, a joint broker for the company. Consider the size of the \$16 billion global insecticide market, coupled with the pressure regulatory agencies are exerting on conventional pest control methods. Chemicals shown to present a risk to the environment likely will be banned eventually, according to Campbell.

TyraTech could replace much of the chemical approaches to insect control, or provide a transitional solution, he said. Known as an "extend" strategy, the approach would substitute TyraTech's natural product for some of the usual chemical treatment, limiting the environmental impact.

In time, much of the toxic pesticides currently used are expected to be taken off the market, Campbell said. "There has to be something to replace them. All eyes are on TyraTech to come up with a range of products."



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Safe Chemicals

Other companies have introduced natural products to control pests, but they fall short of TyraTech in two areas. Some are promoted as environmentally friendly but examination of the label reveals added ingredients that could raise red flags with environmental regulators. TyraTech has the advantage of its novel screening process, allowing the company to find formulations that attack specific pests faster than other processes, Campbell said.

TyraTech uses a blend of natural plant oils, each of which shows some ability as a pesticide, but which are more effective in combination. "When you take the effect of one and combine it with another, you don't get two as an answer, you get five. That's the type of synergy we're looking for," Armstrong said.



The blending, aimed at a biochemical target in the receptors, increases effectiveness. A look at business segments the company is pursuing:

- Consumer home, lawn and garden
- Agriculture and horticulture
- Institutional, such as hospitality and food service businesses, hospitals and governmental institutions
- Vector control, including combating malaria-bearing mosquitoes
- Human and animal health

Corporate partnerships are helping TyraTech in various sectors. "As a young company, we can't pretend to get to all those ourselves," Armstrong said. Kraft Foods, for example, is working with TyraTech to develop what the company is calling functional foods. Because TyraTech's technology uses natural substances, they can be safely ingested by humans. That opens the door to develop compounds that will target human parasites, addressing a global issue that affects more than 2 billion people.

Current treatment for parasitic worms involves having the patient take medication to kill the worms. That works for patients who were infested during a trip to an undeveloped country and are unlikely to encounter the parasite again. But for those who live in countries where worm infestation is chronic, a different approach is needed to break the cycle.

By regularly eating food or drinking beverages containing a TyraTech compound, people in vulnerable areas can eliminate current infestations and stave off future cases. In December, the company completed its first stage of development in the project and received its first milestone payment. Launch of the products is a couple years away.



TyraTech is also working with Arysta LifeScience Corp. to make insecticides for certain horticultural markets, including fruit and vegetable growers, as well as professional turf areas, such as golf courses. In January, TyraTech received milestone payments from Arysta for achieving results in efficacy and cost targets for two licensed applications of TyraTech Natural products.

Other partnerships involve Syngenta Professional Products and Scotts Co., maker of Miracle-Gro. A smaller business segment recently launched puts TyraTech in the field of sustainable solutions helping dairy farms reuse waste. Nature's Natural peat alternative takes cow manure, treats it and adds compounds to eliminate pests such as nematodes, and creates a useable product. Dairy farmers use the clean, odorless result for cow bedding. It also can be sold as potting soil as an alternative to peat. The process solves the problem of eliminating cow manure and prevents the harvesting of peat bogs. "There's no carbon footprint," Armstrong said.

Revenue potential is more limited than in the company's other interests, Campbell said, but the business offers another inroad to possible customers for other products. "It's got them talking to the farmers," he said. The developing businesses have mushroomed the company's employment from about a dozen to 50, and hiring will continue, Armstrong said. A PhD in pharmacology and toxicology, Armstrong also has a background in developing new businesses and launching public offerings.

TyraTech went public in June on AIM, a market of the London Stock Exchange. The offering reached its target of raising just under \$50 million for the company. ♦



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