

New Insect Growth Regulator Helps Win the War Against Termites

by NANCY E. DOHN
IFAS Information

Subterranean termite soldiers have become an unlikely ally in winning the costly war against the wood-munching pests. An insect growth regulator tested by entomologist Nan-Yao Su, with the Institute of Food and Agricultural Sciences (IFAS), affects the insect's hormones, increasing the number of soldiers in a colony and causing its decline. Effective in small doses, the product is also non-toxic to humans and potentially can save Florida homeowners millions in property damage.

"This insect growth regulator is designed to supplement chemicals in use now. It provides another option, enabling us to develop an urban pest management program for Florida residents that effectively controls termites," Su said. Research on the growth regulator is being conducted at the Fort Lauderdale Research and Education Center.

Termites currently cost homeowners in the Sunshine State almost \$400

million each year in property damage. While most people assume rotting wood to be the attractant, that's not always the case, according to the University of Florida professor.

Every spring, swarms from established colonies, which contain as many as three million termites, forage randomly seeking new nest sites. This mass includes a king and queen for reproduction, soldiers for protection and workers who gather food, Su said. The new chemical targets specific hormones in the workers.

"It turns the workers into soldiers, disrupting the delicate balance of the worker/soldier ratio. Soldiers depend on workers for food, and increasing their number overburdens the workers' tasks and they quit feeding the soldiers," he said.

And because it's highly efficient, only a small amount of the growth regulator is needed. A wooden stake is baited with the chemical and inserted into

the ground in the path of the food-seeking workers who carry it back to the nest and infest the colony, he said. Su predicts the new product may be commercially available within five years.

"It takes between six months and a year to cause the colony to decline. This long-term action is what we want, however, because it prevents the workers from realizing the infested food source and abandoning it," Su said.

During this period of time, traditional chemicals are used as a barrier to prevent continued infestation of a home. As a prevention, current building codes often demand treating the soil for termites prior to construction, he said.

"However, this is done with chemicals that could potentially have negative effects on the soil," he said. "Insect growth regulators are environmentally safe and, when used in combination with these pesticides, can provide optimum termite control." 🍏




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