

Do mosquito control devices work?



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With spring rains promising a bumper crop of mosquitoes, some Floridians may consider buying expensive high-tech traps that use carbon dioxide (CO₂) to lure the bloodsuckers. But University of Florida experts warn that buyers who don't do their homework could still get bitten — in the pocketbook.

In today's article, I'll share with you part of a recent University of Florida press release on mosquito control devices.

Priced from \$300 to \$1,500, the traps do capture mosquitoes and other biting insects, said Jonathan Day, an entomologist with UF's Institute of Food and Agricultural Sciences. The real question is whether they will protect a yard from the pests, he said.

Florida is home to seventy four species of mosquitoes, of which about half prey on people, he said. Only a few species are likely to be controlled with a CO₂ trap because variables such as flight range, habitat preference and feeding behavior determine whether the trap will capture mosquitoes in large enough numbers to reduce biting around the home.

The traps lure mosquitoes by emitting carbon dioxide, a gas people and animals produce when they breathe, Day said. Some traps use additional chemicals to mimic other scents. When mosquitoes reach the trap they are captured by a vacuum or adhesive.

Day, who has used CO₂ traps as a research tool for ten years at the Florida Medical Entomology Laboratory in Vero Beach , said despite the traps' efforts to fool mosquitoes with CO₂ and other attractants, the insects prefer people and animals. He is concluding a study that showed CO₂ traps were significantly outperformed by traps that used live hosts as bait.

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Experts agree that operator error can impair a CO₂ trap's performance, said Dan Kline, a research entomologist with the U.S. Department of Agriculture's Center for Medical, Agricultural and Veterinary Entomology in Gainesville .

“It's important that people read and follow the owner's manual,” said Kline, who tests CO₂ traps for manufacturers. “Placement is a big issue — you need to keep the trap out of the immediate area where people gather and try to put it between the people and the source of the mosquitoes.”

Another common problem is that consumers sometimes use the traps only during outdoor activities, rather than running them continuously during warm weather, as manufacturers recommend, he said. ‘Round the clock operation of one trap can cost \$20 to \$25 per month.

No one should rely exclusively on a CO₂ trap for mosquito control, said Roxanne Rutledge, an entomologist at the UF laboratory in Vero Beach . Consumers should also follow traditional precautions such as using repellent, eliminating sources of standing water and patching holes in screens.

Ultimately, a consumer's tolerance for mosquito bites may be the only way to measure success with a CO₂ trap, Rutledge said.

“It comes down to a matter of perception,” she said. “You can have one of these in your yard and if you feel like you're not being bitten by mosquitoes anymore and you're happy with it, then for you it works.”

For more information about CO₂ mosquito traps, see Rutledge's fact sheet “Mosquito Control Devices and Services for Florida Homeowners” at

http://edis.ifas.ufl.edu/BODY_IN171.