

Color is key in controlling flies, researchers find

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(PhysOrg.com) -- As a carrier of as many as 100 types of germs, the common house fly is hardly as innocuous as its name might suggest.

Military personnel know this firsthand, and their need for effective fly control has helped University of Florida researchers create an innovative new fly control device.

Known as the Florida Fly-Baiter, the device is blue — in contrast to the yellow fly control devices on the market — and is far more effective, said Phil Koehler, a professor of urban entomology with UF's Institute of Food and Agricultural Sciences.

Flies can spread diseases including dysentery, typhoid fever and cholera, and they are often the first pest problem to occur when infrastructure, such as plumbing and electricity, is disrupted due to war or natural disaster, such as hurricanes and tsunamis.

Koehler and Roberto Pereira, an IFAS associate research scientist, worked with two UF entomology graduates who are also in the Navy, Joseph Diclaro and Jeff Hertz, to develop the device.

A key to making the device effective was the discovery that flies are three times more attracted to the color blue than to yellow and that yellow actually seemed to repel flies.

The Department of Defense's Deployed War-Fighter Protection

program, which seeks to better protect troops from insect-spread diseases, funded the research.

The device works by enticing flies using color, smell and other attractants. Once at the device, the flies eat poisonous bait that quickly kills them. It does not trap the flies; therefore its usefulness isn't reduced when it fills up with flies, like many other fly traps.

Pereira said when testing the device, more than 40,000 flies were killed with one insecticide application. Additional insecticide can be applied as needed.

Researchers found the flies' color preference by using behavioral tests that determined which color a fly was most likely to travel toward. Electroretinograms that measured the flies' eye reaction found the insects responded more to blue as well.

The research results are published in the current issue of the Journal of Medical Entomology.

Adding to the device's effectiveness are black stripes covered with insecticide that line its outside. The stripes, tested and fine-tuned by Hertz, mimic dark crevices flies like to hide in.

DiClaro, who is lead author of the study and designed the device, said his time as a U.S. Navy hospital corpsman in Cuba in 1991, when Haitian refugees were flooding in, prompted him to work on fly control.

“At the time, there were so many displaced people living very closely together, and the garbage and waste accumulated, producing tons of flies,” DiClaro said. “I remember walking out of my tent and just being covered with them.”

Koehler said the fly control device can be used as an alternative to aerial pesticide treatments, which often attempt to cover too large an area to be effective.

“It’s a much more targeted way to deal with the problem,” Koehler said.

The device, which controls house flies, phorid flies and blow [flies](#), is now available through pest control distributors. Insecticide is sold separately.

Provided by University of Florida

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