

Mosquito Control: DDT may have a place, but it's not in Collier mosquito control

By **JEFFREY C. STIVERS**, special to the Daily News
March 5, 2005

If you had a name like 1,1,1-trichloro-2,2-bis(4-chlorophenyl)ethane, wouldn't you change it? Or how about dichloro diphenyl trichloroethane for short? Those are names only a die-hard chemist could love (or understand), so the rest of us just call it DDT.

DDT was either the worst thing ever invented by man or the best, depending on the particular camp to which one belonged. The issue of DDT has been, and continues to be, debated since the late 1960's. In 1972 it was cancelled for use in the US by the Environmental Protection Agency. Since that time most other countries have banned the use of DDT, under pressure from international anti-pesticide organizations.

Fast-forward to the recent tsunami in Asia and the potential for massive outbreaks of malaria and dengue fever. A number of news organizations, both national and local, have published articles stating that the judicious use of DDT could prevent such outbreaks.

Many also feel that it could be used successfully, as it was in the 1950's and 1960's, to roll back the increasing toll that malaria is imposing on the populations of the developing nations. Others are echoing this call for the use of DDT for disease control around the world.

The Collier Mosquito Control District (CMCD) has received calls from a few residents who have seen these reports asking, since DDT would be good for malaria control, would a return to DDT make the mosquito situation in Naples any better?

Before answering that question, let's look at how insecticides are traditionally used in malaria control operations in developing nations and for mosquito control around Naples.

Malaria control operations are not designed to eliminate all mosquitoes. Rather, control operations are aimed primarily at controlling infected mosquitoes and preventing them from passing the infection on to a healthy person.

In many, but not all, parts of the world, the malaria mosquito flies into a house (shack, hut,

DETAILS

These Web sites offer information, pro and con, on DDT.

extoxnet.orst.edu/ghindex.html

Pesticide Information Project of Cooperative Extension Offices of Cornell University, Oregon State University, the University of Idaho, and the University of California at Davis and the Institute for Environmental Toxicology, Michigan State University

www.junkscience.com/ddtfaq.htm#12

Information from the Web site www.junkscience.com, published by Steven J. Milloy, an adjunct scholar at the Cato Institute and a columnist for FoxNews.com and the New York Sun.

www.atsdr.cdc.gov/tfacts35.html

Information from the Agency for Toxic Substances and Disease Registry operated by the Center for Disease Control.

lean-to) at night and bites a person infected with malaria. After feeding, the mosquito proceeds to land on a nearby wall to digest her blood meal. This is where DDT, or another insecticide, comes in to play. By treating the interior walls of the house where the mosquito will rest with a residual insecticide, the mosquito can be killed before it has a chance to infect a healthy person.

For this type of control operation DDT is the ideal insecticide, where it is still effective against the malaria mosquito. DDT is inexpensive; one application can control mosquitoes for six to 12 months depending on environmental conditions; compared to other malaria control products DDT is safer for applicators and the residents of treated houses; and this type of application releases no DDT into the environment.

Mosquito control operations carried out by the CMCD are of a totally different nature, however. The CMCD makes large area applications of insecticides aurally to reduce the total mosquito population. This type of application requires an insecticide with an extremely rapid breakdown and minimal residual. Since aurally applied adult mosquito control products have exposure to the general environment, minimal non-target impacts at the dosages used is a critical requirement.

With its long residual, DDT does not meet the first of these criteria. Whether DDT meets the second criterion depends on whether one asks a DDT supporter or detractor, and that is a debate that will rage for decades.

DDT is an ideal product for malaria control operations in developing nations where the malaria mosquitoes are still susceptible to it. Its use could prevent several million deaths, most of them of children, every year.

However, the very characteristics that make it ideal for malaria control make it a poor candidate for mosquito control in Naples. Even if DDT were legalized for use in the US, which is very unlikely, it is highly improbable that it would ever be used by the CMCD for mosquito control. The long residual and the political baggage associated with DDT make it a poor choice for use in Naples.



Jeffrey C. Stivers, Ph.D. is director of research for Collier Mosquito Control District. Contact him at JStivers@collier-mosquito.org or by phone at 436-1000. The district Web site is www.collier-mosquito.org.