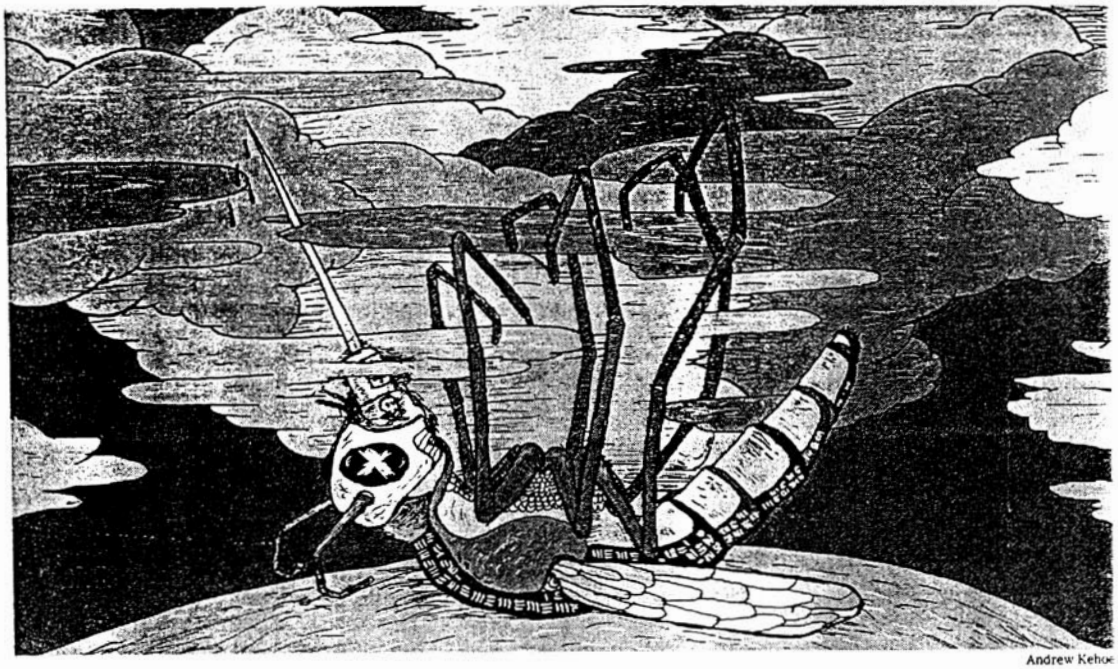
Is There A Place For DDT?

By Henry I. Miller



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STANFORD, Calif. The outbreak of West Nile virus in the United States is rapidly becoming a significant threat to public health. With the peak season just beginning, the mosquito-borne virus has been found in animals (primarily birds and horses) in 38 states, and has caused 103 serious infections and three deaths in humans in 15 states.

Last year, there were more than 4,000 cases and almost 300 deaths. We may be on the verge of an epidemic, but there is no treatment and a vaccine is at least a decade away.

Public health officials have recognized the seriousness of the problem, but too often their response has been tepid and designed to avoid controversy. The Centers for Disease Control Web site, for example, advises people to avoid mosquito bites by covering up, using insect repellent, and staying indoors during peak mosquito hours. Missing from its list of suggestions, however, is any mention of insecticides or widespread spraying. Anyone curious about the role of pesticides in battling mosquitoes and West Nile is directed to a maze of other Web sites.

In the absence of a vaccine, elimination of the organism that spreads the West Nile virus — in this case, the mosquito — is the key to prevention, but fundamental shortcomings in public policy limit the tools that are available.

In 1972, on the basis of dubious data about toxicity to fish and migrating birds, the Environmental Protection Agency banned virtually all uses of the pesticide DDT, an inexpensive and effective pesticide once widely deployed to kill disease-carrying insects. Allowing political sentiment to trump science, regulators also cited the possibility that DDT posed a cancer risk for humans — an assertion based on studies showing an increased incidence of the illness in mice that were fed extremely high doses of the pesticide.

Not only did government regulators minimize scientific evidence of the safety and effectiveness of DDT, they also failed to appreciate the distinction between its large-scale use in agriculture and more limited application for controlling carriers of human disease. Although DDT can be a toxic substance, there is a big difference between applying large amounts of it in the environment — as American farmers did before it was banned — and applying it carefully and sparingly to fight mosquitoes and other disease-carrying insects. A basic principle of toxicology is that the dose makes the poison.

The regulators who banned DDT also failed to take into consideration the inadequacy of alternatives. Because it persists after spraying, DDT works far better than many pesticides now in use, some of which are toxic to fish and other aquatic organisms. (While its longevity poses risks, they are minimized with targeted use.) Also, the need to spray other insecticides repeatedly drives up costs. For example, budget problems compelled Maryland this summer to turn down requests for spraying from communities badly infested with mosquitoes.

How to fight the West Nile virus.

Given the long-term ineffectiveness of other pesticides, DDT remains the best alternative to fighting mosquitoes and the West Nile virus. It's worth recalling that DDT worked before, eradicating malaria from the United States. It's worth recalling, too, that since DDT was widely banned, insect-borne diseases like malaria and dengue fever have been on the rise worldwide. The World Health Organization estimates that malaria kills about one million people annually, and that there are 300 million to 500 million new cases each year.

How can we drain the public policy swamp? First, the government should undertake a re-evaluation of the voluminous data on DDT that has been compiled since the 1970's. It should also make DDT available for mosquito control in the United States.

Second, the United States should oppose international strictures on DDT. This includes retracting American support for the United Nations Persistent Organic Pollutants Convention, which makes it exceedingly difficult for developing countries — many of which are plagued by malaria — to use DDT.

Finally, federal officials should embark on a campaign to educate local authorities and citizens about the safety and potential importance of DDT. Right now, most of what people hear is the reflexively anti-pesticide drumbeat of the environmental movement.

Because DDT has such a bad rap, it will be politically difficult to resurrect its use. But we should begin the process now. In the meantime, we'll just slather on the insect repellent, slap, scratch — and occasionally become infected with a life-threatening but preventable disease. □

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