



Fig. 1. Percent encapsulation of *Dirofilaria immitis* in *Aedes aegypti*.

of defense, it does appear that encapsulation reduces the parasitic load and may influence vector efficiency of *Ae. aegypti*.

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SOURCE REDUCTION IN BOX ELDER COUNTY, UTAH, 1976

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Box Elder County covers an area of 5594 sq. miles, or over three and a half million acres. The mosquito control area covers approximately 3,000 sq. mi., of which approximately 400,000 acres are active mosquito-breeding sources, and over one-half million acres of potential or semi-active areas. Source reduction is a large part of our program.

In 1974 the district purchased a 1201C Spryte® wide-track vehicle with the Thiokol® speed-scavel. Transporting all this new equipment required 2 trucks, 2 trailers and a great deal of time and man-

power. After using the original design and this method of transporting, we felt that modifications were necessary. First we needed a more efficient way to transport the equipment to the job site. So the district purchased a new 1-ton long-wheel-base flat bed truck, with a heavy duty hitch. Then special ramps were constructed on the trailer and our transportation problems were solved. We now need only one truck and trailer to move the equipment anywhere in the county. The next step was modifying the speed-scavel. Those modifications were made in our own shop using scrap

materials to keep the cost down. The district spent less than \$100.00 for these improvements on the speed-scave.

A great deal of study and planning goes into our source reduction projects, including determining if the job can be done, if major mosquito sources will be reduced or eliminated, if the land-owners will go along with the project, and of course, who will be affected by the changes. We then obtain an easement and a release from all owners involved, and move ahead on the project. The land owner also benefits from a well planned source reduction project. With fewer mosquitoes to bother him and his family, he is able to control his irrigation water more efficiently.

We have been very successful with this program over the past 2 years. Our ditching crew has cleaned 157,790 ft of old ditch and constructed 283,740 ft of new ditches this year. This has greatly reduced or eliminated hundreds of potential mosquito breeding areas.

We realize that possibly more restrictions might be placed on this type of work in the future by state agencies. But in the meantime our source reduction work will continue, along with the other methods of mosquito control.

THE FIRST 30 YEARS ARE THE EASIEST

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When my first Entomologist-Director Herbert A. Crandell (now deceased) started me out, I was learning integrated control techniques. My subsequent directors, George Hutton (now at Purdue), P. Bruce Brockway, Jr. (now retired), A. W. Buzicky (now deceased), and R. D. Sjogren, my present leader, have pushed my efforts toward those same goals. Integrated control techniques have been used and expanded over the years. The one point I would like to make is that I have not been able to reach enough of the public to inform them of our techniques.

I've learned much about chemical control, biological control, source reduction and modification as well as education of the public. I don't know of a mosquito control organization that does not train, re-train and upgrade the qualifications of field personnel. We study habitats, life cycles, habits and characteristics of various species of mosquitoes found in the areas where we work. We study populations and problems caused by different species of mosquitoes. Somehow I feel after 30 years that the people who paid my salary (the public) were not properly and sufficiently informed. They continue to pay, and that's good, but more interest, more dialogue, more questions and better communication between my taxpayers and me are in order.

After 11 years with the Toledo Area Sanitary District and 19 years with the Metropolitan Mosquito Control District, the most satisfaction has come from working with excellent co-workers. We are a great bunch of mosquito control experts. We are specialists. Field operational people in mosquito control are a special breed. I'm looking forward to the challenges of another mosquito season. I hope and pray you are also.

My only advice is to learn as much as possible about your mosquitoes, work diligently towards goals outlined for you, and try for more and better education of the public. Certain species of mosquitoes are not part of a quality environment. I'm certain the public can and will help more if informed.

IDENTIFICATION OF A SUITABLE GROUND OPERATED UNIT FOR DISPERSAL OF DURSBAN® 10 CR¹

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Dursban® 10 CR, a controlled-release chlorpyrifos larvicide formulated in a chlorinated polyethylene matrix, received full EPA registration for mosquito control in June 1976. In anticipation of the registration approval the US Army Medical Bioengineering R&D Laboratory initiated a project to identify available ground equipment suitable for dispersal of this pelletized formulation. Due in part to its availability, the Buffalo Turbine, Model CS, Turbulent Air Sprayer-Duster was selected for evaluation as the candidate unit potentially capable of dispensing the material.

A standard 20 m² US Army tarpaulin was spread and anchored within a level, obstruction-free test area located at Fort Indiantown Gap, PA. With the unit loaded in the cargo area of a ¾-ton pick-up truck, and the air blast nozzle set at various angles to determine the optimum angle of dissemination, the larvicide pellets were applied perpendicular to the line of travel at high and low rates of application. Distribution patterns and uniformity of distribution were observed at high and low dispersal settings, at high and low vehicle speeds, and at varying nozzle angles with respect to the ground. Standard size (25 cm x 20 cm) sheets of black construction paper were selectively placed at various locations in the treatment area varying from 5-12 m from the point of discharge.

Wide area distribution was shown to be satisfactory

¹ The opinions contained herein are those of the authors and should not be construed as official or reflecting the views of the Department of the Army. Mention of proprietary products is for the purpose of identification only and does not imply endorsement by the Department of the Army.