

OPERATIONAL NOTES

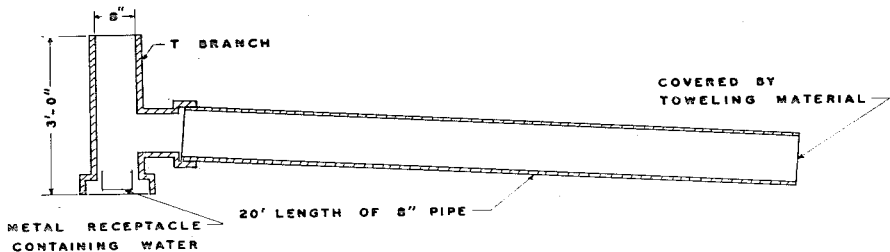
THE USE OF DDVP FOR THE CONTROL OF MOSQUITOES BREEDING IN CATCH BASINS

ROBERT A. HEDEEN¹

In the South Cook County Mosquito Abatement District there are thousands of catch basins (the storm drain inlets at street intersections) that produce great numbers of *Culex* spp. at certain times of the year. To treat these sources the District uses two motorcycles and one truckster equipped for spraying. When inspection reveals breeding in the catch basins they are sprayed with an emulsion containing 5 percent DDT and 1.5 percent lethane (384) at the rate of about one pint per basin. A special nozzle that distributes the spray to all walls of the basin is employed. This procedure has been found to be effective with breeding being controlled for up to several weeks or until a heavy rainfall occurs and washes the insecticides away. On several occa-

our spray mixture. Two simulated catch basins (Figure) were constructed and cages of living *Culex pipiens* adults were introduced into the pipe some 20 feet away from the entrance to the simulated basin.

One pint of 5.0 percent DDT emulsion containing 0.5 percent DDVP was sprayed into the inlet of one of these basins, and one pint of 5.0 percent DDT emulsion containing 1.5 percent lethane (384) was sprayed into the other. Three replicated experiments revealed 100 percent mortality after 24 hours in the basin sprayed with the mixture containing 0.5 percent DDVP. Mortalities of less than 10 percent were obtained in the basin treated with the 5.0 percent DDT-1.5 percent lethane (384) formulation. The Shell



sions, however, it has been noted that adults resting some distance back in the outlet pipe of the basin were not killed by the material used.

DDVP (dimethyl 2,2-dichlorovinyl phosphate) is a relatively new insecticide that shows definite promise for use in mosquito control programs. It is a volatile compound, with the vapors having considerable insecticidal properties.

Because of this vapor toxicity it was decided to conduct a series of tests to determine if adults resting well within the outlet pipe of a catch basin would be killed if DDVP was included in

Chemical Company furnished the DDVP emulsion concentrate.

Beakers containing numerous larvae of all instars and pupae of *C. pipiens* were placed within a few inches of the caged adults in both test pipes. In both test basins the immature stages were not affected by either of the test formulations.

Emulsions of DDVP and DDT are miscible, and on the basis of these experiments the District plans at this time to instigate the practice of using a formulation of 5.0 percent DDT-0.5 percent DDVP for the control of mosquitoes breeding in catch basins.

Thanks are given to the Shell Chemical Company for making available a supply of DDVP emulsion concentrate.

¹ Manager-Entomologist, The South Cook County Mosquito Abatement District, P. O. Box 30, Harvey, Illinois.

NOTE: Bruce Brockway, now in charge of the Operational Notes section, sent in additional notes which could not be set in time for this issue. They will appear, with others, in December.