Table 1. Percentage larval mortality, total mortality, and LT-50 for 4-day-old larvae of *Aedes aegypti* continuously exposed to suspensions of several varieties of *Bacillus thuringiensis*.[a]

Variety of *Bacillus thuringiensis*	Average % Mortality[b]		Larval LT-50 (days)
	Larval	Total	
israelensis	100.0	100.0	0.01 ± 0.001
kurstaki	100.0	100.0	1.3 ± 0.1
galleriae	99.5 ± 0.5	100.0	3.9 ± 0.2
thuringiensis	80.5 ± 2.6	83.0 ± 2.4	3.4 ± 0.2
None	1.1 ± 0.5	5.0 ± 1.9	—

[a] Concentration of 90 μg/ml.
[b] Average of 4 replicates ± S.E. of the mean; 50 larvae/replicate.

rapidity of kill between *israelensis* and *galleriae* and when the larvae died. Larval death due to *israelensis* was immediate and probably due to a quick-acting toxin. In variety *galleriae*, however, few larvae died immediately, most appeared to develop normally and only died at molting or pupation. The mode of action of *thuringiensis* and *kurstaki* was similar to that of *israelensis*, although not as rapid. Differences in the rapidity and type of activity between *israelensis* and *galleriae* may make it desirable to combine the two to obtain more effective field control of mosquitoes.

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MODIFICATIONS TO THE MICRO-GEN ED-2-20A ULV FOGGER

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The Benton County Mosquito Control District found that certain modifications to the Micro-Gen Model ED-2-20A Ultra Low Volume Fogger were advantageous to both the control operator and the maintenance personnel. All of these modifications were minimum in nature and required no major design changes. The modifications are listed below with an explanation of each.

1. The small gas tank was removed and a

large 10 gallon tank was installed with an electric fuel pump. This allowed continuous operation for a full night's fogging, thus eliminating the need to carry extra gasoline. It also eliminated the need for the operator to try to fill a small tank from a portable gas can. It was found that a lot of gas was spilled on the hot engine during this night refueling operation causing a fire hazard.

2. The engine exhaust pipe was re-directed to the side of the vehicle, thus eliminating the exhaust being aimed at the truck cab. It was found that slow driving would allow the exhaust to enter the cab when the small window ventilators were open.

3. The rubber seals in the insecticide exhaust nozzles were replaced with teflon seals. It was found that the malathion used caused the rubber seals to expand and thus allow an air/insecticide mixture to escape.

4. The bolts and nuts were removed from the black pump and low pressure switch cover and the holes were tapped with ¼×20 threads thus eliminating the nuts. It was found that it was a very tedious job to remove the cover when the nuts were used on the bolts.

5. The flush tanks on 3 of our units developed leaks in the tubing at the bottom of the tanks. The tanks were removed and the tubing was expanded with heat to allow a better fit of the small tubing on the large connection. A small hose clamp was installed. After a season's use it was also found that the sun expanded the tank so that it was impossible to remove it from the holding bracket. The only way to remove the tank is to cut the holding bracket from the top rim down to the top of the viewing slot; thus allowing the aluminum holder to expand.

6. A small section was removed from the belt cover screen to allow an RPM rotary indicator to be inserted on the engine drive pulley in order to check for proper RPM of the engine.

7. The plexiglas cover on the air pressure gauge clouds up when malathion is used in the machine, thus causing it to be unreadable. A glass cover replacing the plexiglas, eliminates the problem.

8. It was found that a number of times the pump by-pass switch would be turned to the "on" position inadvertently. A small hole was drilled in the switch allowing it to be wired to the off position with a light wire, that can be broken or removed when use of the pump by-pass is necessary.

9. The battery was removed from the unit and placed in a plastic battery box with a cover, thus eliminating the possibility of electrical arcing especially during refueling operations.

10. In order to accommodate 2 different insecticides, 2 tanks were installed and the three-way valve was replaced with a four-way valve, which used the same location and mounting holes.

11. The digital control head was found to hinder the driver's vision if mounted on the dash, therefore the ashtray was removed on our Ford Couriers and the unit was mounted in its space below the dash.

It was found that the above modifications were minor in nature, but ones that made for more efficient operator use of the equipment and easier maintenance.

THE OCCURRENCE OF *AEDES ATROPALPUS* (COQUILLETT) BREEDING IN TIRES IN OHIO AND INDIANA

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The rockhole mosquito, *Aedes (Ochlerotatus) atropalpus* (Coquillett), has an unusual distribution (Figure 1). Zavortink (1972) listed records from southern Quebec in Canada, the eastern United States from Maine to Alabama and Georgia, and the northern midwest from northeastern Minnesota, northern Wisconsin, and northern Michigan. Siverly (1972) stated that there were no records of *Ae. atropalpus* from Illinois, Indiana, Kentucky, or Ohio, but suggested that since it had been reported from Michigan, it could possibly be found in Indiana. Covell and Brownell (1979) reported finding this species breeding in tires in Jefferson County, Kentucky. In 1979, personnel from the St. Joseph County Mosquito Abatement Program, University of Notre Dame (UND), and the Vector-borne Disease Unit, Ohio Department of Health (VBDU), found this species breeding in tires in Indiana and Ohio. These collections bring the total number of mosquito species occurring in Indiana to 52 and in Ohio to 53.