METHOPRENE BRIQUETS AS AN ATTRACTANT FOR GRAVID *AEDES AEGYPTI* (L.)

MICHAEL K. CARROLL

New Orleans Mosquito Control Program 6601 Lakeshore Dr., New Orleans, LA 70126

The detection of *Aedes aegypti* in New Orleans in 1972, after an absence of 17 years and the subsequent build-up and spread of this potential vector, has created some unique control problems. Routine larviciding and adulticiding measures have proven ineffective against this mosquito, primarily because of its domestic nature. Ground adulticiding has had little effect since many of the older houses in the city are constructed as close as 2 m from one another, and are elevated less than 1 m from the ground. During standard ULV ground adulticiding operations, slide rotators were placed below and behind these houses and indicated that the chemical droplets were not reaching these areas. Short term larviciding was not considered feasible because of the many artificial containers located in the low income residential areas and the large number of man-hours required to service them.

Methoprene(Altosid^{R})=isopropyl 1(E, E)-11-methoxy-3.3,11-trimethyl-2,4-dodecadienoate) as a liquid, encapsulated on sand, and in charcoal (Briquets) has proven effective against several species of mosquitoes in New Orleans. The purpose of this study was to determine if water-holding artificial containers could be pre-treated with experimental miniaturized Altosid briquets (minikets) prior to the *Ae. aegypti* breeding season without an appreciable repellent effect.

Preliminary laboratory testing indicated that ca. twice as many of field collected gravid *Ae. aegypti* deposited eggs in miniket treated containers than in untreated ones. A field test was then designed to determine if this were also true under actual field conditions.

MATERIALS AND METHODS. Ovitraps have been used in New Orleans since 1974 to monitor the seasonal and annual population density and movement of *Ae. aegypti.* The ovitrap consists of a 0.5 liter "little black jar" (LBJ) partially filled with tap water containing a strip of 2.0 cm × 12.5 cm Masonite® fiberboard (paddle) 4 mm thick. The LBJs, when placed in shaded areas, provide excellent oviposition sites. The gravid female *Ae. aegypti* lay their eggs just above the water line in the depressions on the paddles.

Table 1. Number of *Ae. aegypti* eggs in miniket-treated LBJs vs untreated LBJs.

Pair No.	No. eggs, untreated	No. eggs, treated
1	0	0
2	24	56
3	12	21
4	21	8
5	9	6
6	14	6
7	0	0
8	11	31
9	7	43
10	0	0
11	0	0
12	1	50
13	0	0
14	28	11
15	96	140
16	33	54
17	0	9
18	21	40
19	13	28
20	2	13
21	0	4
22	0	2
23	20	46
24	7	5
25	24	4
26	3	14
27	7	36
28	0	0
29	0	0
30	19	17
31	10	24
32	11	50
33	10	16
34	82	86
35	0	0
36	6	14
37	0	15
38	19	80
39	0	0
40	0	0

In September of 1978, 50 pairs of LBJs were placed in a biased way throughout New Orleans in areas of high *Ae. aegypti* ovipositional activity. The jars, placed 25 cm apart, were left in the field 10 days in temperatures averaging 27° C. One of the paired jars contained water, a paddle, and a 0.5 g miniket. The other jar contained no miniket. The jars were brought back to the laboratory where the eggs were identified and counted.

RESULTS AND DISCUSSION. Of the 50 pairs of LBJs placed in the field, 10 were eliminated because of drying or tipping of the jars. The treated LBJs yielded a total of 929 *Ae. aegypti* eggs ($\bar{x}$ = 23.23) and the untreated jars had a total of 510 *Ae. aegypti* eggs ($\bar{x}$ = 12.75) (Table 1.) A statistical analysis ("t" paired) showed the miniket treated LBJs to be highly attractive ($P < 0.001$) to ovipositing *Ae. aegypti*. Although *Ae. triseriatus* eggs are sometimes deposited in these containers, only *Ae. aegypti* eggs appeared in this test. This is not unusual when compared to 5 years of LBJ ovitrap data from the New Orleans Mosquito Control Program.

The 5 years of ovitrap data from the New Orleans Mosquito Control Program show that the *Ae. aegypti* breeding season can be fairly accurately predicted as to the month of the year that significant activity will begin and the month that activity will cease. Although the severity and length of the winter cold can shift the onset of appreciable breeding activity a few weeks, ovipositional activity generally begins in late April or early May and ends in late November or early December, with the greatest activity in September.

Based on long term ovitrap data and the data from this study, Altosid minikets and briquets show potential as an important tool in the control of *Ae. aegypti* larvae, particularly by curtailing the early season population build-up.

EMENDATION

If has been brought to our attention that the list of literature cited included with the paper entitled, "Permethrin-Treated Jackets Versus Repellent-Treated Jackets and Hoods for Personal Protection Against Black Flies and Mosquitoes" (Mosq. News 38 (3): 350–357) omitted two important references with which Capt. R. L. Frommer was associated.

They are:

a) Field Evaluation of Deet Repellent Jacket Against Black Flies (Simuliidae) J. Med. Entomol 12 (5): 558–561 (1975).
b) Field Evaluation of Several Repellents Against Black Flies (Diptera, Simuliidae). Mosq. News. 36 (3): 224–247 (1976).

Apologies are given to Capt. Frommer and to the Editor and Editorial Board of *Mosquito News* for the resulting inconvenience.—I. S. LINDSAY AND J. M. MCANDLESS.